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DEVELOPING A BUSINESS MODEL FOR AN ALL-DAY NATURE-BASED
PRESCHOOL IN THE TWIN CITIES METRO AREA OF MINNESOTA

by

Hannah G. Gall

A capstone submitted in partial fulfillment of the requirements for the degree of Master
of Arts in Education: Natural Science and Environmental Education.

Hamline University

Saint Paul, Minnesota

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To the always supportive Dan Baune who joined me in the middle of this mess, but supported me the whole way, including but not limited to making sure we have a place to make this dream come true. To the wonderful peers and professors I met during this journey, may we have established lifelong friendships during the course of this degree. The knowledge both parties have imparted onto me has been both indispensable and inspirational. To all the people and places that impacted my life and influenced my love of the outdoors, especially those at Camp St. Croix who taught me that I belong, fostered my budding passion for environmental education and inspired me to dream of a career outside.

“Children are born naturalists. They explore the world with all of their senses, experiment in the environment, and communicate their discoveries to those around them.”
-The Audubon Nature Preschool

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CHAPTER ONE

Introduction

Waldkindergartens

The literal translation of Waldkindergarten is forest kindergarten. While this might sound odd to the modern-day American, the concept of forest kindergartens is not new. In fact, when Friedrich Froebel created kindergarten in mid-18th century Germany, children in nature was a main focus of his model (as cited in Sobel, 2014). In fact, the term kindergarten directly translates into “children’s garden”. Since this time, kindergarten has been transformed into something entirely different (Miller & Almon, 2009). Once consisting of learning through play and exploration and giving children a chance to exercise their imagination; kindergarten has now been restructured into being taught and tested on literacy, math, and other “testable” skills (Miller & Almon, 2009). The original concept of a kindergarten from its creator, Friedrich Froebel, was focused on peers and cooperative work (Corter & Wolanski, 2008). Fortunately, there is a movement back toward Froebel’s original model of kindergarten that focuses on peers, cooperative work and unstructured time in nature. Some refer to these as Waldkindergartens, others

as nature preschools or forest schools. Regardless of the label, the foundation of bringing children closer to nature remains vital in this type of preschool program.

The project portion of this capstone will provide a suggested business plan that can be used in the formation of a nature-based all-day preschool in a Midwest climate. This capstone seeks to answer the question; *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* The Midwestern weather presents a challenge to a nature-based preschool in many ways. With temperatures ranging from negative digits in the winter to upper 90's in the summer, it can be tricky and often daunting to attempt to set up an outdoor focused year-round school in this climate. This capstone aims to alleviate some of those worries and fears by providing a framework for working around such hurdles as the weather and strict state licensing regulations.

Establishment of a nature-based preschool, one in which being outside is central to the educational philosophy of the school, is important because of the decreasing time children are spending outdoors, and the benefits children are missing out on because of this (Natural Learning Initiative, 2012). At the time of this writing there are only two such full-day programs being offered in the state of Minnesota, and none in the Twin Cities Metro region (Natural Start Alliance, n.d.). As use of technology increases, and parents seem to have less and less time to spend with their children on a daily basis, it is important for children to be able to benefit from unstructured time in nature where they spend a large part, sometimes the majority, of their day: at preschool (Natural Learning Initiative, 2012).

This first chapter of my thesis identifies my research question, presents a rationale for choosing this question and provides context for the capstone question and topic. I share stories of my childhood and the early influences it had on my own connection to nature, as well as discoveries as a young adult regarding my preferred method of schooling and workplace that have led to my interest in this topic. I also discuss the importance of this topic from a national standpoint as it relates to how our current school systems work and how this presented approach deviates from that. Finally, this chapter discusses my environmental education philosophy. All of the sections of this chapter lead to providing context and rationale for the research question: *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?*

My Woods

In alignment with 97% of adults, the starkest memories I have from my childhood are from time spent outdoors (Wells & Evans, 2003). Whether that is in the small patch of forest behind my house that was part of a larger park reserve or on my grandparents' four hundred and fifty acres in Northwestern Wisconsin, I remember days spent with my siblings and cousins toiling away on various tasks in the woods. Our experience in the woods taught us many different lessons that were not categorized into such labels as "science" or "math". They were multidisciplinary lessons that are not a common teaching practice by formal education systems in the United States. Here we built bridges to allow our four-wheelers to cross muddy creeks or old beaver dams. We used math, engineering, and good old fashioned hard labor to construct these masterpieces that would hold a four hundred pound piece of machinery--and all of us kids at the same time.

Through this we practiced teamwork and leadership. We had to experiment with trial and error; we did not have a “How to Build a Four-Wheeler Bridge” textbook at our disposal, nor would we have been interested in reading one had one existed. We learned perseverance, and the joy and satisfaction of a job well done. We learned to rely on others and what their strengths were and how they balanced our own weaknesses. We encountered many such experiences playing outdoors in various ways through various disciplines, but exploring and building in the woods remained our favorite. When was the last time your math lesson taught you all of that? Furthermore, when was the last time you were so engrossed in your math lesson that you worked on it from dawn until dusk for days and never tired of it?

There is a term for this called “flow” which the creator, Csikszentmihalyi (1997), described as, “intense moments of full absorption and happiness...these episodes of joy are more likely to happen when a person engages in an activity they like, that has challenging but reachable goals,” (p. 46). I have personally never experienced flow inside of any educational institution. Csikszentmihalyi mirrored this statement in his book *Applications of Flow in Human Development and Education* (2014) when he stated, “most school time is spent in activities which students cannot structure as flow experiences” (p. 280). As Csikszentmihalyi (2014) argued, and I agree with, flow in education is an important aspect that is missing from many modern American early childhood education systems.

Early Teen and Young Adult Years

I hated high school. Not because I was bad at it, I was a straight A student when I tried, but because I found it boring. I skipped more school than I attended and the only

reason I got away with it was because I had a disability pass that let me out of class. I never connected the things I was learning in school to the real world, and how they would affect me personally. How could I? Our school systems are not designed for such applied knowledge. Math stays in math class and American History stays in American History, there is rarely crossover of subjects. It was designed this way at the start of the public school system, and it has barely changed since (Gray, 2013). I felt in the real world I would never need either of these studies, or the various other topics we were tasked with studying, and was therefore disinterested in all of it. Looking back now, if I had been able to apply all of these concepts to something I was interested in, say four-wheeler bridge building, I believe I would have learned and retained a significantly larger amount of knowledge.

After high school I enrolled in a traditional four-year university. I quickly found I hated this, too. It did not take long before I dropped out and moved on to another four-year university thinking it was the university I did not like, not the method of schooling. Not long after I had transferred to the second school, I dropped out of college altogether. I could not figure out what was “wrong” with me. I was very smart, school came quite easily to me, and I was conditioned by my parents and society that to be successful in this life I would need my four-year degree, so why did I loathe it so much? I started working in retail and moved myself up the ladder quite quickly by showing off skills I had learned in the woods such as hard work, teamwork, leadership and perseverance. In order to continue my upward movement I was told I would need to finish my four-year degree. So, I enrolled in online school. I loved it. I could take things at my own pace instead of at the pace of the lecturer. I could delve deeper and work ahead on things that I was

interested in. I could gloss over things that did not hold my interest. It was a much better system for me. I quickly finished the credits needed to earn my bachelor's degree.

The Waldkindergarten Movement

After earning my degree and working at the retail company for a few years I became burnt out both physically and mentally. I began to not enjoy my job, and worse, my already compromised health started to deteriorate. I was forced to start contemplating alternative options. While browsing a social media site I stumbled across an article about Waldkindergartens (Doak, 2016). I was both intrigued and inspired. I thought back to my own experiences and wished that I could have attended such a school.

I searched around for such a school in the Minnesota area, and was disappointed when I found we had nothing truly similar here. I quickly decided I would like to start a school of my own. I had never felt my current occupation was my “true calling” and had longed to find a career where I could be my own boss, make a difference in the world, work Monday through Friday, and not have to rely on childcare when I was ready to start a family. This sounded like the perfect opportunity to me. I set to work figuring out how to make this dream come true. One of the first things I did was attend Erin Kenny's instructor training in Vashon, Washington. The article that had first alerted me to Waldkindergartens spoke of Ms. Kenny and her school, and after a little further research I was on a plane to attend a week long training held by Ms. Kenny that aimed to help others start forest kindergartens of their own.

A few months after this I had the opportunity to purchase acreage in my hometown of Hudson, WI. Unfortunately, my inspirations were not well received by the city and I was denied the required permit to operate. I was devastated. It took me a few

months to recover but after I picked myself back up I decided I needed to be more versed in the subject matter. I started looking at options for advanced degrees and once again stumbled upon the perfect fit. I enrolled immediately and quit my corporate job a few weeks later for something that was better suited to my health conditions while I attended school. This has all led me to this point, where I am ready to once again, but more prepared this time, tackle the question of how to set up a nature-based preschool in the Midwestern environment while being sure to follow all applicable licensing rules and regulations.

The National Concern

Nationally, there has been concern with the amount of time children are spending indoors on a daily basis. Studies report varying amounts of time, contingent on country and lifestyle but some studies report children spending as little as half as much time outdoors as their parents did (Press Association, 2016), or in comparison, half as much time as prison inmates spend outdoors per day (Martinko, 2016). Certainly in the last few decades more and more studies have been published showing this trend and the harmful effects it can have on children's health. A noted author in this field is Richard Louv, who coined the term "nature-deficit disorder". This term refers to the effects of the lack of nature and outdoor free play on today's youth (Louv, 2005). Louv (2005) utilized research to show that nature is essential for healthy child development and is also essential for the physical and emotional health of children and adults alike. Some of these benefits, as reported by the Children and Nature Network (2016a, 2016b) include: enhanced attention, improved eyesight, improved nutrition absorption, reduced stress and increased physical activity and increased engagement and enthusiasm.

A nature-based preschool will help to solve the issue of nature-deficit disorder in children during the preschool years, when it is of utmost importance for children to develop their ecophysiological self, or in other words, a child's natural sense of relation of his or herself to the natural world (White, 2004; Kellert and Wilson, 1993). If the ecophysiological self is not developed during this critical time period, it is often too late to develop an emotional connection with nature later on. This is another attribute of a nature-based preschool that will provide a lifetime benefit to children that many modern children miss out on.

Environmental Education Approaches

There are various approaches to teaching. A way that works for one person, may not work for another. The same is true for environmental education. To paraphrase the text *Across the Spectrum*, environmental education does not necessarily have to consist of formal lessons, but instead encompasses a variety of topics including but certainly not limited to nature hikes, planting trees, a campaign to encourage public transportation and activist meetings between like-minded people (Monroe & Kransy, 2016). The definition of environmental education, as set forth by a United Nations Educational, Scientific and Cultural Organisation meeting, consists of developing the skills and attitudes necessary to understand and appreciate both one's culture and biophysical surroundings (Monroe & Kransy, 2016).

As with many disciplines, throughout the environmental education field there are different standpoints and views on environmental education practices, as well as varying teaching styles, learning styles and preferred teaching settings and methods. My informed personal opinion, which is guided by research and the completion of this degree, as well

as my approach to and philosophy of environmental education are discussed below and are intertwined into this project.

Research has shown a multitude of benefits to spending time outdoors including supporting creativity and problem solving, enhancing cognitive abilities, improving academic performance, improving self-discipline, reducing stress and improving social relations (Natural Learning Initiative, 2012). When young children under the age of five spend ample amount of time outdoors they begin to take an interest in the world around them (Kellert and Wilson, 1993; Natural Learning Initiative, 2012). A great example of this comes from Cedarsong Forest School in Vashon, Washington. The children at this school spend their entire day in the woods. The school director reported that the children at Cedarsong learn to have empathy and to deeply care about the world around them from their time spent outside (E. Kenny, personal communication, March 2016).

The children at Cedarsong Forest School will actively work to protect their favorite plants and animals to save them from harm's way, perhaps by putting up a fence around their favorite plant or verbally alerting others to its location (E. Kenny, personal communication, March 2016). This interest will naturally lead them to be curious about environmental issues and create a desire to engage and act in problem solving in the environment, as Edward O. Wilson has spoken about in his "biophilia hypothesis," which suggests humans have an innate tendency to seek connections with nature and other forms of life (Kellert and Wilson, 1993). As children get older these issues begin to transform into more complex and serious issues. As Sobel (1999) stated, "what's important is that children have an opportunity to bond with the natural world, to learn to love it and feel comfortable in it, before being asked to heal its wounds" (p. 13).

Allowing children the age-appropriate time and way to bond with nature is important, and is often lacking in our busy, technology filled lives.

My approach to environmental education is inspired by the Waldkindergartens of Germany. A Waldkindergarten, or forest kindergarten directly translated, is a nature-based preschool that values unstructured time in nature above all else. Typically a Waldkindergarten has an emergent, or, student-led curriculum and teachers are present for safety and to answer questions. There is much research around the benefits of spending time outdoors, especially for young children. The American Academy of Pediatrics (2008) claims one hour of unstructured free play outdoors a day is essential to physical and mental health. Unfortunately, at many American preschools and public schools outdoor play is often limited to thirty minutes or less, and play takes place on manufactured playground equipment, or worse, concrete covered in Astroturf or other material. Furthermore, outdoor time is also often not unstructured time. Allowing children to have an ample amount of free time in nature, such as in a Waldkindergarten setting is a beneficial and age-appropriate way to for young children to learn environmental education (Sobel, 1999).

I also do not believe young children, those under the age of about seven or eight depending on maturity, should be forced to sit in a standard American classroom setting being lectured to and then asked to recite back answers or complete worksheets or tests. I do not believe that this is the best way to cultivate learning and it is certainly no way to keep children engaged and enjoying learning. As shown in the previous example involving Cedarson Forest School, by immersing children in nature they naturally came to care for their surrounding environment. This empathy intrinsically motivated them to

strategize on something they saw as a problem and then to work together to implement a solution, placing a barrier around the beloved plant so others would be aware of its existence and less apt to accidentally trample it.

I believe examples like this will be seen over and over again involving increasingly complex topics if children are given a chance to develop a relationship with the world around them. Again, this development will become increasingly complex as they grow and by the time they are adults they will be freely exploring complex environmental issues and working on a larger community scale to help solve these issues (Sobel, 1999). This kind of connection can be easily translated to other important topics such as math, literature, politics, history and so on.

My personal philosophy is that in order to live a fulfilled life--one of equilibrium of mind, body and soul--nature must be a significant part of one's life. I believe nature can be the cure for many modern social and behavioral problems. For example, children who spend time outdoors are less likely to exhibit behaviors associated with Attention-Deficit Hyperactive Disorder (Dunckley, 2013). Furthermore, unstructured free time in nature, as made available at such a place as a nature-based preschool, has been reported to increase children's attention span, improve social skills and influence imagination (Powers-Costello, 2015). It affirms my philosophy that the best way for young children to learn and thrive is through experiencing the intrinsic value of nature, and being fully immersed in what nature has to offer.

Project Objective

The learning objective for this project is to develop a business plan for a brand new childcare program in Minnesota. Minnesota is a mandatory licensing state. This

means that any form of childcare must be properly licensed through the Department of Human Services. Strict licensing standards must be adhered to, and there must be an approved curriculum. There is also a mandatory naptime for all-day centers. For these reasons as well as weather-related reasons, a traditional Waldkindergarten concept must be adjusted to fit into a Minnesota-based school. This project will specifically focus on the business plan necessary to open a nature-based preschool in Minnesota, as well as an example curriculum for a nature-based preschool that meets Minnesota licensing standards.

Personally, this is a second chance at the planning portion of opening a nature-based school before I embark on this journey in reality very shortly. While there are ample options of part day care that are nature-focused, no one in Minnesota has opened a true Waldkindergarten that is based on a full-day care model. The goal of this project is to organize everything needed so others can also open similar full-day programs in Minnesota.

Conclusion

This capstone centers on answering the question: *What is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* This chapter first described my childhood experiences using the woods as a classroom, and then discussed my frustrations with a traditional classroom setting as I grew older. The chapter then delved into how I stumbled on the Waldkindergarten movement, and further spoke about the national concern regarding youth and time spent outdoors. Finally, details regarding my approach to environmental education were discussed and the objective for the project was

further defined.

The next chapter focuses on the literature review relating to the Waldkindergarten model. The goal of this chapter is to inform the reader of what experts have already learned about this topic and reflect on what their results mean as well as connecting with other researchers and research communities. The main subjects in this chapter are: benefits and importance of nature-based preschools, availability of nature-based preschools in the United States, curriculum models in early childhood education, and challenges to opening a nature-based preschool.

The third chapter is an in-depth project description detailing how the project was conducted and discussing the intended audience, the context the project takes place in, what frameworks and theories are included in the project as well as a project timeline. Lastly, the fourth and final chapter of this capstone provides conclusions to the project by discussing what was learned, revisiting the literature review from Chapter Two and discussing possible implications and limitations of the project as well as how results will be communicated and used in the preschool field.

CHAPTER TWO

Literature Review

Introduction

Nature preschools and forest kindergartens are a relatively new concept that started in the second half of the twentieth century. The first nature preschool was opened in the United States in 1967, and the first Waldkindergarten was opened in Germany in 1968 (Sobel, 2016). Since this time the movement has taken off exponentially more in Europe than it has in the United States, with the U.S. housing roughly 250 schools and Germany alone boasting over 700 (Natural Start Alliance, 2017). There are several reasons that may be behind why America has been slower to adopt the idea of nature preschools, and those thoughts are best examined through a literature review. But first the importance and difference of this type of preschool education must be established.

All of the literature reviewed in this chapter serves the purpose of justifying the central research question of this capstone project, or, *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* The literature review contains four major sections: the benefits and importance of a nature-based preschool, availability of nature-

based preschools in the United States, curriculum models in early childhood education and challenges to opening a nature-based preschool.

The benefits and importance of a nature-based preschool are important to the understanding of the capstone because it provides rationale for why this type of preschool in particular is so important for children because of all the potential benefits of children spending unstructured time in nature, as is suggested by a Waldkindergarten-inspired school type. The availability of nature-based schools in America is not as prevalent as it could be, because as the research shows, this type of program is lacking in the United States and in Minnesota in particular. The benefits of this type of school to children justify the need for more of these types of programs in the area.

Exploring different curriculum models of early childhood education is crucial in the understanding of why various models were chosen in this capstone project. Understanding that many different models exist and not all models produce the same results is important before choosing and defending a certain curriculum model. Because a nature-based school creates challenges of its own, it is further of interest to discuss how all these curriculum models play a role in a nature-based preschool setting. Finally, there are certain challenges to opening a nature-based preschool in the United States. Most of these are societal and cultural in nature, and may explain why these types of schools have been slow to take hold when compared to European counterparts. It is fundamental to discuss these challenges, as well as offer ways around them in this chapter. First, it is of interest to start with discussing what the benefits and importance of a nature-based preschool are.

The Benefits and Importance of a Nature-Based Preschool

There are many benefits to children spending time in nature, and this in turn justifies the importance of the availability of nature-based preschools to children. The benefits are especially important for families who require full-time care for their child during the workweek, as these children are missing out on the opportunity to play outside during the majority of their day at a traditional preschool. This section discusses some of the most prominent benefits of a nature preschool to children. The first section starts with cognitive improvements in multiple areas such as: improved academic performance, improved social relations, and improved self-discipline (Huff & Lash, 2017). The second section discusses mental health benefits. After this, some of the disadvantages of traditional preschools are discussed, and finally the importance of access to a full-day nature-based preschool is considered.

Current Early Childhood Education and Environmental Education

As Acar said in his 2014 journal article, “Early childhood education and environmental education are compatible with each other” (p. 849). The North American Association for Environmental Education (2016) agrees that developing an inner unity with nature is of utmost importance in the early years. Unfortunately, as reported in Davis (1998), “for the early childhood years there has been a major absence from curriculum theory, policy, and practice of approaches that foreground environmental perspectives,” (p. 117). Furthermore, a teacher that is appropriately trained in environmental education is crucial in transforming attitudes, values and actions that foster sustainable social and environmental relationships for children (Davis, 1998). There is a current lack of both environmental curriculum and trained teachers in the early childhood space.

Developmentally appropriate environmental education for children aged four to seven should aim to enhance and foster empathy with the natural world through place-based education (Sobel, 1999). Natural spaces and educational settings have an important role, and offer children the ability to develop certain skills, which often cannot be replicated by a traditional classroom setting, such as some of the merits shown below (Bento & Dias, 2017).

Cognitive Improvement Areas

Studies have shown that the environment has important effects on intelligence and development in early childhood (Acer, 2014). Such effects that have been recorded include restorative effects on the prefrontal cortex-mediated executive attentional system (Atchley, Strayer & Atchley, 2012). The prefrontal cortex is known to be in charge of executive functioning such as attentional control, working memory and cognitive inhibition. This system can be depleted with overuse, such as multiple hours per day spent in front of or using electronics (Atchley, Strayer & Atchley, 2012). A 2017 survey found that children under the age of eight spend an average of 2 hours and 19 minutes using a media device each day, with an average of 48 minutes of that time being on a mobile device (Common Sense Media, 2017). This extended use of media devices may be at risk of being depleted with overuse in children who are spending too much time in front of a screen.

However, nature has a remedy to too much time in front of screens. In a 2012 study, higher-level cognitive skills were shown to improve with sustained exposure to a natural environment, therefore effectively helping to restore some of the prefrontal cortex system that can be depleted with the use of electronics in young children (Atchley,

Strayer & Atchley, 2012). After four days of nature exposure, a 50% increase in cognitive performance was measured in one study (Atchley, Strayer & Atchley, 2012). Furthermore, interacting with nature has also been shown to lead to improvements in proofreading (Hartig, Mang & Evans, 1991), sustained attention (Berto, 2005) and suppression of distracting information (Berman, Jonides, & Kaplan, 2008).

Another report, published by the Children and Nature Network, cited multiple areas of developmental domains being boosted by nature. These include creativity and problem solving, enhancing cognitive abilities, improving academic performance, improvement in self-discipline and reduction in stress (Huff Sisson & Lash, 2017). Moreover, due to children's greater plasticity or vulnerability, it is likely that the environment has a more profound effect on children as compared to adults (Wells & Evans, 2003). This makes being able to spend time outside all the more important for children as a part of a well-rounded healthy upbringing. In addition to cognitive benefits of spending time in nature, emotional benefits have also been recorded.

Mental Health Benefits

A study cited earlier from the Children and Nature Network also asserted that natural environments not only help children develop intellectually but also emotionally, socially, spiritually and physically (Huff Sisson & Lash, 2017). Children's mental health is a hot topic right now, so much so that the Surgeon General held a national action agenda on the topic in 2000 (U.S. Public Health Service, 2013). Certain theorists, such as Louv (2005) and Gray (2013), among others, argued that the correlation between rising mental health issues and less time outside are directly related. Certainly, this correlation seems plausible. There have been studies that show that a disconnection from natural

environments negatively affects the wellbeing of children (as cited in Wells & Evans, 2003). While some of the rising diagnoses in mental health disorders may be as a result of advancements in the medical field and better access to mental health care, certainly these theorists may have a point. A very simple, effective, and free way to ward against this is to ensure children are spending enough unstructured time in nature.

The Wells and Evans study (2003) also found that the presence of nearby nature could influence stress levels in children by buffering or moderating stress' impact. While the topic of why this occurs was not the main component of this study, the authors do draw parallels to two explanatory reasons why this may be. The first is social support. The authors suggested that natural settings may draw children together as a context for making friends, and in turn this social support acts as a buffer to life stressors (Wells & Evans, 2003). The second possible explanation of the buffer effect of nature is the theory that nature works to improve one's attentive abilities (Wells & Evans, 2003). This mirrors the findings explored previously in the study done by Atchley, Strayer and Atchley. The ability of nature to bolster children's attention and reset their prefrontal cortex-mediated executive attentional system may allow children to think clearer and cope with stress more effectively (Wells & Evans, 2003).

Another rising mental health concern among young children is Attention-Deficit Disorder (ADD). Spending more time in nature can also be a natural remedy to this disorder. Symptoms of ADD have been reported to decrease as time in nature increases (Huff Sisson & Lash, 2017; Wells & Evans, 2003). While there are many theories as to the exact reason why symptoms of ADD decrease in nature, there are several factors that may play a part. When children are allowed to roam more freely in nature and are given

time to explore at their own pace often, this may allow symptoms of ADD to dissipate, which Wells and Evans (2003) explained as, “Nature’s tendency to draw one’s attention effortlessly (fascination),” (p. 325). They further postulated that this allows inhibitory mechanisms to rest, while concurrently being away from daily concerns and providing a wide scope for one to become immersed in something (Wells and Evans, 2013).

Csikszentmihalyi (2014) may choose to reference this same phenomenon as nature’s tendency to induce flow. As Kenny (2013) has now famously quoted, it might be as simple as this statement; “Children cannot bounce off the walls if we take away the walls” (p. 3). The cognitive and mental benefits of allowing children ample amounts of time in nature, and specifically unstructured time in nature are vastly apparent. Unfortunately, spending large amounts of time in nature is not a priority for most traditional American preschools.

Physical Benefits

In addition to cognitive and mental health benefits, physical benefits are also seen when children participate in a nature-based school. A few of these benefits include increase in physical activity, increase in healthy immune systems, and improvements in eyesight (Huff Sisson & Lash, 2017). The presence of parks and open space has been shown to promote children’s physical activity level (Dyment & Bell, 2007). This particular article spoke about how school ground greening by removing tar and asphalt spaces and replacing them with open green areas promotes higher activity level in children (Dyment & Bell, 2007).

A Scandinavian study found children attending outdoor preschools have lower rates of illness, better motor skills particularly in balance, agility and hand strength, and

had better powers of concentration (Grahn, Martensson, Lindblad, Nilsson, & Ekman, 1997). A University of South Carolina study found that in conventional preschools, 89% of children's activities were sedentary, 8% were lightly active, and only 3% were moderately to physically active (Brown, Pfeiffer, McIver, Dowda, Addy, & Pate, 2009). This may be leading to the obesity epidemic in preschool children in the United States, where nearly one in five American four year olds are obese (Anderson & Whitaker, 2009). A nature preschool that consists nearly entirely of outdoor play therefore should promote a higher physical activity level in children, and potentially see a decrease in students with obesity.

Another very interesting benefit of nature-preschools is a phenomenon known as the "hygiene hypothesis" (Velasquez-Manoff, 2012). This hypothesis is based on the premise that children are kept too clean, and researchers are now concurring that regular outdoor experience provides low-level exposure to bacteria that promote development of antibodies in the immune system (Velasquez-Manoff, 2012). The hygiene hypothesis suggests that the immune systems of children in developed countries are no longer being activated by certain stimuli found within the environment because children are not spending as much time outdoors, coupled with other factors including growth of cities and decline of family size (Sobel, 2016; Velasquez-Manoff, 2012). The hygiene hypothesis further postulates the overuse of antibacterial soaps and extended time indoors then causes immune systems to overreact to external (outdoor) stimuli that the immune system mistakenly perceived as threats, causing an increase in autoimmune disorders and allergies (Sobel, 2016). It should be noted that the hygiene hypothesis is still a

hypothesis, however anecdotal evidence is strong and new research is generating data that supports this premise (Sobel, 2016).

Not enough time spent outdoors may also be contributing to eye disease in children. Myopia is a progressive eye disease that is prevalent in children, with over 80 million children diagnosed worldwide (Ostrow, 2010). Increased use of electronics by children has been shown to be a cause of the increasing diagnosis of myopia, which has increased by 65% since 1970 (Sobel, 2016). Furthermore, more time spent outdoors, specifically with exposure to daylight (Sobel, 2016), has been shown to reduce the rate of myopia in children (Ostrow, 2010). Giving children access to large, open natural spaces could improve child physical activity levels and reduce the risk of myopia disease.

Disadvantages of Traditional Preschools and Daycares

According to the National Childcare Accreditation Council, “Many children will spend more time in childcare before starting school than they will spend in classes during their entire primary and secondary schooling,” (as cited in Davis, 1998, p. 121). This staggering fact makes it of utmost importance that children inside daycare centers receive the opportunity to play outdoors on a regular, daily basis. Unfortunately, in many traditional preschool settings children spend the majority of their time inside, and some days do not even go outside at all. In the state of Minnesota there is no mandated amount of time that children must spend outdoors in a preschool center. However, there are also not any rules or regulations regarding what kinds of weather children are or are not allowed to be exposed to, meaning that “bad weather” is not a legal excuse not to allow children time outside.

Studies have shown children have a preference for green spaces, and that these preferences are an expression of basic human needs (Korpela, 2002). Often in traditional daycare center settings access to green space is limited for a number of reasons. Davis (1998) discussed that these reasons may be economic in nature, stating that expanding the internal space of a center while neglecting the shrinking outdoor play space creates more revenue for centers. She also stated that because of these dwindling outdoor spaces in some centers and the amount of children using the grounds that the outside space easily becomes severely degraded, even leading some centers to opt for laying a grass substitute or even concrete (Davis, 1998). The author of this review has personally witnessed some centers opt to lay turf grass in the first place just to save on maintenance and upkeep costs of live grass. For other centers, there is the fear of risk and potential lawsuits that keeps children inside for most of the year (Davis, 1998). Further fear of letting children get dirty and dealing with upset parents can be a reason behind traditional daycares keeping children indoors, as well as overly protective parents actually wanting their children to be kept inside due to the false belief that children can become sick from being outside or playing in the cold.

There are clear disadvantages to children being unable to have easy access to play outside. Wells and Evans (2003) reported that five year olds who did not have easy access to outdoor spaces to play unsupervised exhibited poorer social, behavioral and motor skills and had fewer friends than children who did have easy access to the outdoor spaces. Additionally, outdoor play is shown to promote a healthy lifestyle by encouraging active play (Bento & Dias, 2017). With obesity being a national epidemic in America, it is more important than ever for children to engage in a healthy lifestyle. It would be a

simple life choice to send children outside to play to encourage this, and unfortunately it is just not being done in traditional daycare centers.

A study of an outdoor all-weather day care as compared to a traditional daycare located in an urban setting with tall buildings showed better motor coordination and greater attention capacity of the children who participated in the outdoor daycare center over the traditional center (as cited in Wells & Evans, 2003). While the reason behind this correlation was not studied, this is just another noted disadvantage of a regular preschool setting versus one with a focus on children spending time in nature. Finally, spending all day indoors in an enclosed space leaves children more exposed to disease contamination due to saturated air (Bento & Dias, 2017). Large, open natural spaces do not contain this potential threat. While there are many positive attributes to a nature-based preschool program, certain disadvantages also exist and are discussed, below.

Disadvantages of nature-based preschool. The majority of disadvantages associated with nature-based preschool involve negative opinions of the type of school. However, there are some tangible disadvantages that should be discussed. In a nature-based preschool, safety inspections need to be performed regularly (Crampton, 2016). These safety inspections should be performed throughout the entire property, and can cause the school extra expenses from the performance of these inspections as well as paying for any corrections found during the inspection. The inspections should check for things like surfaces being maintained, examining wood and living trees to be sure that it has not rotted and is intact, and doing a visual inspection of all trees to ensure that there are no weak branches, hazardous roots, broken fences or decaying logs (Crampton,

2016). In addition to property inspection, surveys should be done to examine for hazards such as poisonous plants or wasps nests (Crampton, 2016).

Another disadvantage of nature-based preschools, subjectively, is the presence of risk. Certainly, when children are allowed to engage in what some might perceive as dangerous activities, such as climbing trees, the risk of injury may increase. However, there is also research showing that children must participate in risky behavior to develop informed judgment, learn their own capabilities and vulnerabilities and hone in on good decision-making skills (Sobel, 2016). Nevertheless, the added risk of a nature-based preschool may be too much for some, and can therefore be considered a disadvantage of a nature-based preschool.

A final disadvantage of nature-based preschools discussed here is Americans with Disabilities Act (ADA) accessibility. It is very hard to include ADA accessibility in a nature-based preschool. In order to make the natural areas wheelchair friendly, a paved path would have to be installed, as well as ramps and passages throughout the natural area. Not only would this be a very expensive burden, it would impede on the natural environment and also potentially create a hazard for other children who may trip and fall on the sidewalk. Therefore, it is not conceivable to make a nature-based preschool ADA accessible in this situation and this is a disadvantage for this type of school.

The three disadvantages referred to here are certainly important, but there are also many benefits and advantages that have been discussed that far outweigh these disadvantages, making it important for children to have access to a full-day nature-based preschool. The more readily available a nature-based school is, the better for both children and the surrounding community.

Importance of Access to a Full-Day Nature-Based Preschool

Without access to a nature-based preschool many children may go without the benefits of unstructured time in nature, as described above. Studies show that the most common activity for children aged one to sixteen years is watching television (Lupu, Norel & Laurentiu, 2012). In a 2017 survey, nearly all families surveyed with children under the age of eight reported having a mobile device in the home, and eighty percent of families reported owning a tablet (Common Sense Media, 2017). The time spent in front of a screen is sedentary time that is taking away from the free time children have that they could be playing outdoors.

A Juster, Stafford, and Ono (2004) study found that children spend only fifteen to twenty-five minutes a day outside or playing sports. Even back in 2003, compared to time spent during active play each day, time spent on electronics was longer (Minkel, 2003), and time spent on electronics has only increased since then (Common Sense Media, 2017). According to Bento and Dias (2017), “major challenges of present and future generations may be the need to balance between an increasingly ‘busy’ society and the preservation of experiences of well-being and connection to the world,” (p. 139). One way to counter the balance in society is to offer a nature-based preschool that understands and appreciates nature-play for children and values getting children outside every day.

There may be several factors inhibiting children from playing outside, even when they are not glued to a screen. These are reported to include possible hazards, and potential interactions with strangers or with cars (Bento & Dias, 2017; Louv, 2008). Parents also reported feeling obligated to occupy children’s time during the day, and do this by signing children up for academic activities and sports, which often result in

absorbing time children would otherwise have to play freely (Bento & Dias, 2017).

Regardless of the reason children are not playing outside frequently, and certainly less than children in the past, coupled with the fact that young children spend so much time in daycare settings, it is of the utmost importance that parents have the option to send their child to a place where nature play is valued and experienced on a regular, daily basis.

Additional benefits of attending a full day program versus a part day program. Much like the newer option of full day versus half-day kindergarten, the question of full-day or half-day preschool has been a choice some preschool parents find themselves making. For some, it is not an option so much as a necessity, especially when both parents work outside of the home. In fact, the United States Department of Labor indicated that in 2016, 61.1% of married families with children had both parents working, and in families described as having “other marital status” 72-82% of the time the main caregiver was employed (Bureau of Labor Statistics, 2017). Since so many children are in need of full-time care during the workday, it is very important to offer quality programming options and choices so that children are able to participate in a program that offers a safe and beneficial environment. For parents with the option of choosing full day or part day care, it is important to evaluate the effectiveness of both. Studies looking at full day versus half-day preschool programs are lacking, so instead analysis of kindergarten programs, which are the most similar in age and curriculum, are reviewed here.

Lee, Burkam, Ready, Honigman and Meisels (2006) found in their literature review that, in general, research favors full-day kindergarten programs over half-day programs. In a thesis looking at the benefits of full day versus half-day kindergarten

programs, Dixon (1999) noted multiple positive attributes to full-day kindergarten programs, and a few disadvantages as well. Families in Dixon's (1999) study stated the full-day kindergarten program made life more manageable, particularly for 60% of the mothers in the study who were working. In fact, at the end of the year, 100% of the parents in the full-day program stated they would enroll in the full-day program again, and 72% of parents in the half-day program also reported they would chose to enroll in the full-day program as well (Dixon, 1999).

Teachers of full-day programs reported more time for formal and informal learning (Dixon, 1999; Vlietstra, 1981), leaving students feeling less stressed and teachers who did not feel rushed (Dixon, 1999). It was also reported that there were significantly more child to child social interactions in the full-day program, leading these children to be better prepared socially and academically than the half-day students (Dixon, 1999). Significant social advantages of full-day programs were also reported by Vlietstra (1981) and Lee et al. (2006).

A few potentially adverse items associated with the full-day kindergarten program were inconsistent long-term effects and issues with classroom ownership. The author stated that more longitudinal studies would need to be done to better determine long-term effects of attending a full-day kindergarten program (Dixon, 1999). Lee et al. (2006) agreed that there were not many longitudinal studies, and for those that do exist some document long-term benefits for children attending full-day kindergarten, while others do not report any. For children who were attending a full-day program, but only attending every other day, it was reported that children did not feel ownership over the classroom, and it was also a confusing schedule (Dixon, 1999). This can be solved by not allowing

every other day classes, or going to a more consistent schedule and not using the alternative Friday schedule used in this study's example (Dixon, 1999).

Overall, the literature review shows social and academic benefits of a full-day kindergarten program, as studied above. Therefore, it can be said that for parents considering the options between full-day and part-day programs that there is a significant advantage to the former. For parents who do not have the option of a half-day program, it makes the availability of a full-day program even more necessary. It should be noted that these results are likely closest to what would be found if preschool children were studied specifically, however there are limitations to this assumption.

Conclusion to the Benefits and Importance of a Nature-Based Preschool

It is clear that there are multiple cognitive and social-emotional benefits to children spending unstructured time in nature. Unfortunately, in many traditional American preschools time outside is not valued and often lacking. With busy family schedules it is often hard for parents to find time to spend unstructured time in nature with their children, and is therefore an important gap in the marketplace that a nature-based preschool can fill. While many parents do not have a choice of full-day or half-day programs, for those that do there is evidence that a full-day program can provide certain social and academic advantages that a part-day program cannot provide, and it is therefore additionally important to offer a full-day nature-based preschool.

Unfortunately, nature-preschools themselves are not very popular in the United States. When a nature-based preschool is found, it is even more rare that there is a full-day offering. In fact, two of the most popular textbooks for starting nature-based schools in the U.S., Sobel's (2016) *Nature Preschools and Forest Kindergartens* and Larimore's

(2011) *Establishing a Nature-Based Preschool* specifically focus on half-day programs. Both texts give brief mention to full-day programs but typically in the context of how they are so much more difficult to establish, and not as profitable or unable to serve as many children. The challenge brought forth by full-day programs is not limited to nature preschools, but is the same for traditional preschool programs as well, and correspondingly most traditional preschools are also part-day programs.

While a full-day school may not be able to serve as many children since there is no turnover of classes from the morning to the afternoon, the important difference is that it opens the door of opportunity to many children who otherwise would not have the benefit of attending this type of school due to parents being unable to accommodate a half-day school schedule. The following section will discuss the current lack of availability of nature-based preschools in the United States, and then take a closer look at preschool trends in Minnesota.

Availability of Nature-Based Schools in the United States

Waldkindergartens and other such nature preschools are not a brand new concept. In fact, the Waldkindergarten movement tracks its historical roots to the 1950's and 1960's in Sweden (Sobel, 2014). However, their availability and popularity in the United States has only recently begun to emerge. At the end of 2015 there were a reported 92 nature preschools in the United States, up from 20 in 2012 when counted as part of doctoral research (Mongeau, 2015). This number is miniscule compared to the number of preschool-aged children in the United States. In Minnesota, the number of children under six years old is 425,639, and of those 74% have all available parents in the workforce and are likely to need some form of full-day care option (Troe, 2016). The lack of availability

to this type of school is discussed in this section, as well as a comparison of preschool programs in European countries contrasted to available options in America.

Lack of Availability of Nature Preschools in the United States

The first nature-based preschool in the United States opened in 1966 at a nature center called New Canaan Nature Center (Merrick, 2016). That school is still in operation today. However, the addition of other nature preschools was slow to catch on. The first school in Minnesota opened in 2000 at Dodge Nature Center in Saint Paul (Larimore, 2011). The trend of nature preschools is just beginning to catch on in the United States with a more than six fold increase in programs from 2012 to 2016 (Merrick, 2016). However, the number of programs is far from great as the increase was from roughly two-dozen centers to just over one hundred and fifty (Merrick, 2016). There is also no formal mechanism for tracking nature-based programs, so the Natural Start Alliance is relying on their collection of schools that were self-reported to the organization for this statistic (Merrick, 2012). Bailie (2012), who was the first person in the United States to complete a doctorate degree in nature-based preschools, reported in her dissertation that there was a need in the United States for a better understanding on nature preschools. She further postulates that her research revealed a need for a deeper understanding of environmental education and early childhood education as a combined discipline, especially as it relates to providing programs that meet quality standards (Bailie, 2012).

Both Bailie (2012) and Merrick (2016) reported no quality standards for nature preschools and the need for these to exist. Both authors call for the creation of a board of quality standards (Bailie, 2012; Merrick, 2016). In her article, Merrick (2016) reported the recently launched Council of Nature and Forest Preschools, which will hopefully fill

this gap. With the creation of this council it may be easier to track both accredited and non-accredited programs in the future, also allowing for established quality standards. The other benefit of this type of council being erected is gaining public buy-in to the benefits of nature preschool programs versus a traditional preschool program. It should also allow nature preschool directors to feel less isolated and better connected with each other, something Bailie (2012) noted as a desire from current directors in her dissertation.

There is a lack of available enrollment slots at nature preschools in the United States compared to how many preschool aged children there are. Even in Germany, which has over 700 Waldkindergartens, the Waldkindergartens there only make up 3% of schools (Sobel, 2016). Imagine just how small of a percentage America's just over 250 schools must be, especially when taking country size into consideration. Therefore, there is a lack of availability of nature preschools in the United States. This lack of schools makes this capstone project relevant and necessary. Furthermore, Minnesota not only suffers from a lack of nature-based preschools, but a statewide needs assessment has shown there is a general lack of outdoor time for preschoolers in the state.

Lack of availability of nature preschools in Minnesota. If a lack of availability of nature preschools in the United States is an issue, nature-preschool availability in Minnesota is worse. At the present moment there are two programs that are considered nature-based and offer full-day care in the state, as reported by Natural Start Alliance (2017). To make matters worse, a needs assessment done in the state of Minnesota showed problems with traditional preschools getting children outdoors regularly and for the proper amount of time.

In a study done by Ernst (2012) that looked at needs of licensed child care in Minnesota, none of the respondents in the survey reported that they had unmaintained or natural areas at their property (Ernst, 2012). Of the outdoor playtime offered to preschoolers, 90% reported this play time was unstructured, however that the majority of outdoor play time was spent on playground equipment (Ernst, 2012). Ernst (2012) also found no relationship between amount of time spent in outdoor play space and access to space. When questioned about the obstacles to outdoor play respondents of Ernst's (2012) study cited three main factors: lack of appropriate clothing, lack of access to natural play areas and safety or liability concerns.

Even worse, Ernst (2012) found that only about half of the respondents reported that the children in their care were getting the recommended sixty minutes of activity daily. Further, of the half of the respondents that reported getting children sixty minutes of activity daily, one-quarter of these stated that this only happened when they considered the weather "nice" (Ernst, 2012). Ernst (2012) concluded that the results from her survey suggest that, "there may be a need for increasing the amount of time preschool-aged children spend both in outdoor play and nature play while they are in the care of licensed providers," (p. 15). The general lack of availability of nature-based preschools in the United States, coupled with the finding that most preschool aged children are not even getting the recommended physical activity time in centers in Minnesota, creates a serious need and marketplace gap for this type of program in this state.

Conclusion to Availability of Nature-Based Preschools

The literature review shows that outdoor play is beneficial to children, and there is a need for a greater focus on this, especially in the realm of early childhood education.

Reports of the number of programs for children that focus on nature play in the United States is slim, and there are even relatively less of these types of programs in Minnesota. A needs assessment of Minnesota programs showed a general lack of free time outside, and a lack of children getting the recommended daily amount of activity time. Now that the relevance and need for a nature-based preschool have been established, the following section discusses various curriculum models and what aspects have been chosen for use in this capstone project, along with a rationale behind each choice.

Curriculum Models in Early Childhood Education

Many curriculum models exist for each level of education. No singular model is completely right or completely wrong, and sometimes a blend of multiple curriculum models can work best. As Follari (2007) stated in her work *Foundations and Best Practices in Early Childhood Education*, “one size does not fit all,” (p. 8). Each school, classroom and teacher is unique and this should be accounted for by utilization of different curriculum models. However, there is also a vast difference in curriculum models of Waldkindergartens versus traditional American curriculum models for early childhood education. Because of different cultural and social values between Germany, where the Waldkindergarten originated and the United States, not all aspects of a Waldkindergarten curriculum are used in this proposal. Instead, influence taken from various proven and accredited curriculum programs in America is paired with the Waldkindergarten model.

This capstone proposes a mixed theory consisting mainly of the Waldkindergarten model of early childhood education, but also with aspects of the project approach, Reggio Emilia, Montessori, and Waldorf approaches. There are several reasons for the proposal

of this mixed theory approach. Because of state licensing standards in Minnesota, there must be an indoor space and this space must be of certain size and contain certain elements that the state has deemed educational in order for a school to operate legally in this state. Since Waldkindergartens do not have an indoor space, the Waldkindergarten approach must be adapted for Minnesota law. Since there is no indoor Waldkindergarten model to use, the inspiration for the indoor space has come from the other proposed curriculum models, while holding as true and consistent as possible to the Waldkindergarten approach to education. The state of Minnesota also requires a documented curriculum that must meet standards set forth by the Minnesota Department of Human Services. Since Waldkindergartens do not have a written curriculum model, inspiration from the other proposed curriculum models was also used for this purpose. All of the incorporated curriculum models will be discussed in this section, as well as an introduction to why curriculum matters in early childhood education and research regarding why these approaches were chosen.

Why Curriculum Matters

According to Crosser (2005) in her book, *What Do We Know About Early Childhood Education: Research Based Practice*, it has been established by past research that personal and societal gains are associated with early childhood education. Crosser (2005) went on to discuss the rates of children in four different types of care according to a 1999 survey, stating 23.1% are cared for by parents, 22.8% of children are cared for by relatives, 16.1% receive in-home care by non relatives and the majority of children, at 59.7%, are placed in center-based care. Furthermore, more than 56% of three to five year olds were enrolled in some form of childcare in the year 2002 (Crosser, 2005).

Studies have also shown a correlation between emotional stability, volunteerism and criminal convictions in relation to different types of early childhood education curriculum programs (Schweinhart & Weikart, 1998). The Schweinhart and Weikart study (1998), sponsored by the High/Scope curriculum method, performed a study of three different early childhood educational models: direct instruction, high/scope curriculum and traditional nursery school. The main difference studied from these three instruction methods was child-initiated versus adult-directed methods of instruction. Both the high/scope instructional method and traditional nursery school methods were considered child-initiated, while the third was considered adult-directed. The conclusion of the study found ten benefits to the two child-initiated methods of instruction and none to the adult-directed method when the study participants were re-evaluated at the age of 23 (Schweinhart & Weikart, 1998). Some of these advantages are discussed here.

Only 6% of the child-initiated preschool group required treatment for emotional impairment or disturbance during their schooling (Schweinhart & Weikart, 1998). This is a significant advantage over 47% of the direct-instruction group and 17% of the control group, who did not experience any form of early childhood educational curriculum (Schweinhart & Weikart, 1998). The study suggested that this might be an indication of “serious negative emotional residue” left over from the direct-instruction method this group of children had received (Schweinhart & Weikart, 1998, p. 58). While there certainly may have been other factors that influenced the emotional instability of the direct instruction group, the difference between this group and the control group is quite significant and further studies should be conducted to rule out other causes and

strengthen this correlation. However, in the meantime, it certainly suggests that child-initiated curriculum models provide a foundation for more emotionally stable children.

Another important finding of the Schweinhart and Weikart (1998) study is that of the two child-initiated curriculum groups, a much larger percent of respondents had participated in volunteer work at the age of 23. Compared to the direct instruction group, which saw an 11% volunteer work participation rate, those in the two child-initiated instruction groups saw an average of 43.5% participation in some form of volunteerism (Schweinhart & Weikart, 1998). The authors of the study suggested that the child-initiated curriculum models taught children to have a greater awareness of the needs of others and much like the initiation of learning in their early childhood setting, compelled these respondents to initiate their own volunteer activities (Schweinhart & Weikart, 1998). This finding from the study also supports the principle that a child-initiated instructional method is the best choice for an early childhood educational curriculum model. Therefore, the chosen curriculum model for this school, which is also what is used in the Waldkindergarten model, will be child-led.

Accepted Curriculum Models

There are multiple different academically researched early childhood educational models. Most of these different models stemmed from a historical context of people and their beliefs at the time, or from a single view that early childhood educational practices should be challenged in some way (Follari, 2007). Some of the most popular and accepted models in the United States today are: early intervention, the high/scope foundation, the project approach, the schools of Reggio Emilia, Montessori Education, and Waldorf Education (Follari, 2007). While early intervention and the high/scope

foundation are also approaches based on child-initiated practices, both methods were developed for and focus on at-risk children who are living in poverty or with a disability. For this reason they are not used or studied in this project. The project approach, Reggio Emilia, Montessori Education and Waldorf education, which are also all child-initiated approaches to education, will be discussed and used here. The Waldkindergarten model, which is not popular in the United States, but boasts over 700 schools in Germany is the model that this project will be most closely based off and will be discussed first (Kane & Kane, 2011; Peterson, 2015).

Waldkindergarten model. The beauty of the Waldkindergarten curriculum model is that there really is no set curriculum. A true Waldkindergarten is entirely children-led. Fantasy play takes the role of lead curriculum design and teaches the children things such as abstract thinking and spatial awareness that are not easily taught by traditional schooling methods (Kane & Kane, 2011). Kane and Kane (2011) also reported the following advantages to the Waldkindergarten model:

Proponents say that the focus on play, exploration and discovery without adult intervention or formal instruction helps children develop their inner self. Children are not distracted by what adults want them to learn, and concentrate instead on self-knowledge, self-confidence and self-reliance. Children plan, organize, investigate, and explore on their own. Children also learn to collaborate with their peers and develop a sense of community belonging and responsibility. (p. 16)

In addition to being able to determine their own learning, children are often given jobs for each day that promote responsibility and emphasize the importance of being a part of the community to the children (Kane & Kane, 2011).

A final important aspect of the Waldkindergarten concept is mixed age ratios. In a typical Waldkindergarten model, children are not assigned to groups predetermined by age, but rather are all a part of a larger community of children of different ages and abilities, much like in the real world (de Quetteville, 2008). Research involving multi-age classes found children who were a part of a multi-age class scored higher in language and math skills than students who were not a part of a multi-age class (Crosser, 2005). Social and emotional benefits were also recorded in multi-age classes (Crosser, 2005). Multi-age classes allow older children to practice the role of caregiver and teacher for the younger students, and give younger students role models to look up to for guidance. The multi-age classroom can also motivate younger students to learn quicker in an effort to be more like their friends (Crosser, 2005). It is therefore easy to see how there is a benefit to multi-age classes and another important positive aspect of the Waldkindergarten model.

Perhaps the most important aspect of the Waldkindergarten model is what the name Waldkindergarten suggests, forest school. Waldkindergartens are outdoor-based schools, typically found in a forest setting. Most Waldkindergartens do not have a building, while some have shelters or lean-tos in case of inclement weather (Kane & Kane, 2011). In most instances, children carry their own backpack containing their lunch, change of clothes and a water bottle (Kane & Kane, 2011). This aspect also helps to teach the children responsibility. While to some the setting of a school does not pertain to a curriculum model, proponents of the Waldkindergarten model, as well as the Reggio Emilia model, discussed later, would disagree. Waldkindergartens would not be possible without their outdoor setting, so much so that most Waldkindergartens do not even have an indoor space (Sobel, 2014). These basic differences of no curriculum, mixed age

groups and an entirely outdoor setting differentiate a Waldkindergarten from a traditional American preschool model, and make it the most prominent model of choice for this capstone project.

Another point to consider is that a nature preschool and a Waldkindergarten are also very different. Sobel (2014) stated that the difference between a nature preschool and a Waldkindergarten is their approach to the question, “Will my child be ready for kindergarten or first grade?” (p. 234). A Waldkindergarten works to prepare children purely socially, while a nature preschool also focuses on academics and assessment. Sobel (2014) does, however, make a caveat that the two are more alike than different. This distinction between Waldkindergarten and nature preschool is the reason why this project is titled as a Waldkindergarten-inspired nature preschool as it takes many aspects from the Waldkindergarten model, but the presence of a building and the state-mandated assessment of students are more closely associated with a nature preschool. The next section focuses on the project approach, which is a widely accepted American model of preschool curriculum that has a similar aspect to Waldkindergartens. Other curriculum models that have been influential to this capstone project are considered next.

The project approach. The project approach encourages children to, “actively investigate topics that are meaningful to them,” (Follari, 2007, p. 174). The central learning goals of this approach are knowledge, skills, dispositions and feelings (Follari, 2007). Much like the Waldkindergarten model Follari (2007) reported, “children’s learning experience is optimized when they are actively engaged in meaningful, authentic explorations of their day-to-day world,” (p. 187). However, unlike the Waldkindergarten model where children are free to experiment on their own each day, in the project

approach children work together with the teacher to generate the scope of the project and actually plan it out ahead of time (Follari, 2007). This aspect of preplanning in the project approach concept will not be used in this capstone. The project approach is a great example of how parts of the Waldkindergarten model are already considered mainstream preschool models in the United States. The next approach, the Reggio Emilia approach is also widely accepted in the U.S., but got its origins from a small town in Italy.

Reggio Emilia Approach (REA). The Reggio Emilia Approach originated in the small town of Reggio Emilia, Italy. Much like the Waldkindergarten model, it has a heavy emphasis on community involvement and a relationship with place (Follari, 2007). In fact, in the Reggio Emilia approach, the environment is viewed as a third teacher and classroom spaces are designed intentionally (Follari, 2007). The REA was built on the belief that children are capable and competent (Follari, 2007), a belief that is also shared by the Waldkindergarten model (Sobel, 2014). A difference between REA and other approaches is its emphasis on experiencing the world through all of one's senses and the focus on what REA refers to as aesthetic development, or sense of beauty (Follari, 2007). In a REA classroom, themes last as long as the children need (Follari, 2007). This correlates with the Waldkindergarten model, where children are allowed to explore whatever they want as long as their interest in that topic persists, and are never forced to move away from an interest.

Unlike in the Waldkindergarten model where teachers generally do not interact or interfere with the children's learning, teachers of the REA are seen as "provocateurs" whose job is to seek to provoke children's thought and encourage children to ask thoughtful questions (Follari, 2007). Since the concept of Waldkindergarten is something

so new to the United States, and often children being encouraged to ask thought-provoking questions is not the societal norm of the United States, the author of this project sees this aspect of the Reggio Emilia Approach an important approach to incorporate into the model in this capstone.

There are other aspects of the Reggio Emilia approach that will not be incorporated into this capstone, as follows. Small group interaction is promoted in the REA (Follari, 2007). While small group interaction is a beneficial aspect of any preschool community, children will not be forcibly separated into small groups but rather a small teacher to child ratio will be maintained in this Waldkindergarten-inspired nature based preschool model. The REA also focuses heavily on parent involvement in both design of the physical space and of the philosophical beliefs of the school (Follari, 2007). As stated in the Follari (2007) text, this is often a foreign concept to American educators. Given the busy lives of most American parents and the current societal trend toward overly involved parenting, or helicopter parenting (Cline & Fay, 1990), this facet of the REA will not be used in this project.

Often teachers in a Reggio Emilia inspired school take enormous amounts of time, up to six hours per week, for collaborative planning efforts (Follari, 2007). Given the fact that students are in charge of their own learning and the forest is the classroom, as seen in the Waldkindergarten model, this intensive amount of collaboration and planning is not seen as necessary in this project. However, some form of collaborative discussion between teachers is beneficial, and will be incorporated into staffing patterns on a weekly basis. The next curriculum approach discussed also originated in Europe, but from one person instead of community collaboration.

Montessori education. In a Montessori approach, which is now a household phrase in the United States (Follari, 2007), child initiated activity is also a central focus. Maria Montessori developed this approach from personal years of research and her beliefs regarding the best way to educate young children (as cited in Follari, 2007). Montessori believed that children develop through activity that is free from adult interference, much like Waldkindergarten models (as cited in Follari, 2007). Furthermore, Montessori postulated that children's minds absorb the stimuli in their environment and develop through sensitive periods in which learning specific domains is optimal (as cited in Follari, 2007).

White (2004) believed that if children had not cultivated a strong relationship with nature by the time they were seven, that they might forever lose that ability to have a deep connection with nature. In this respect, it is very important for the children ages three to five who would be cared for at this nature preschool to have the opportunity to develop a strong sense of connection to the natural world during what Maria Montessori would refer to as this particular “sensitive period” in the child’s life. Sensitive periods are inspired by a child’s environment, so by immersing children in nature this will influence the sensitive periods that they go through, and furthermore Montessori believed that a child’s investigations and quest for perfection will only occur when the learning environment is “just right” (Epstein, 2016). By creating a “just right” outdoor and indoor learning environment inspired by place-based educational elements, a deeper level of understanding and learning can be achieved at this Waldkindergarten-inspired preschool. It is in this way that a small part of the Montessori educational method becomes an aspect of this capstone project.

Another aspect of the Montessori approach is Montessori's "follow the child" philosophy. Follow the child may not be as simple as it seems, and comes with some restraints. Inside a Montessori classroom the environment is set intentionally so that activities that children choose to engage in are in hands-on, purposeful materials designed to evoke deep concentration, or work (Flores Shaw, 2016). However, in the Montessori philosophy, unlike Waldkindergarten philosophy, it is the teacher's job to offer the child work based on the teacher's observations of a child's behavior, or following the needs of the child (Flores Shaw, 2016). In the Waldkindergarten philosophy, children are free to choose their own work, or activity, outside of adult intervention. However, Montessori (2007) also wrote that in a family environment parents should, "respect all the reasonable forms of activity in which the child engages and to try to understand them," (p. 54) this definition of follow the child, which is more closely related to Waldkindergartens, will be used here.

Flow in Montessori education. Flow, as described in Chapter One, is a term from psychologist Csikszentmihalyi (2014) that describes moments of deep thought and happiness that a person experiences when engaging in an activity they like. Csikszentmihalyi (2014) argued that flow learning is a deeper state of learning because the learning is intrinsically motivated, intentional and has a purpose in itself. He further argues that any activity that contains these criteria will automatically lead to learning. Achieving a state of flow in the classroom can help students learn to like schooling more, and therefore become motivated lifelong learners.

Unbeknownst to Maria Montessori when developing her approach, the Montessori classroom environment has been shown to cultivate flow experiences (Csikszentmihalyi,

2014). Since creation of the term *flow*, Montessori schools have aimed to make the concept of flow a part of their early childhood educational philosophy (Csikszentmihalyi, 2014). Csikszentmihalyi (2014) states one way to initiate flow in education is to provide less emphasis on the clock, such as in Montessori schools and Waldkindergartens. Allowing children freedom of choice, as Montessori and Waldkindergartens do, is another way to foster flow experiences. It is especially important that young children develop a desire and interest in learning, and a proper early childhood education program should foster these ideals. The Waldkindergarten-inspired approach that is taken by this capstone project is aimed to promote flow learning and inspire children to enjoy learning throughout the rest of their lives.

Waldorf education. Similar to Montessori education theory, the Waldorf movement was started by one person, this time following a time of social crisis after World War I in Europe (Follari, 2007). It was during this time that Austrian philosopher Rudolf Steiner started contemplating the human potential and developed a school program for the children of the factory workers at the Waldorf Astoria cigarette factory in Germany (Follari 2007). This curriculum approach views children as complex, whole human beings very similar to the philosophies of Reggio Emilia and Montessori (Follari, 2007). Furthermore, Waldorf aimed to develop children in mind, body, and spirit while strengthening social renewal and society (Follari, 2007).

Steiner coined the term anthroposophy, which means, “movement described as the knowledge and awareness of humanity, with a belief that there is a spiritual world that can be accessed by the highest intellectual facilities,” (as cited in Follari, 2007, p. 243). Anthroposophy is perhaps the biggest distinguishing factor in Waldorf education. To

encourage a spiritual connection to nature, Waldorf schools often spend long periods of time engaged in outdoor play to encourage a spiritual connection to nature (Follari, 2007). This project model will take the idea of anthroposophy, not used with this particular language, and encourage children to develop a spiritual connection with nature and further enhance their own spirit through the practice of mindfulness and through long periods of time spent outdoors. Schein (2014) defined a spiritual moment in Rivkin's work *The Great Outdoors* as, "feeling wonder, awe, joy, and inner peace," (p. 58). This idea of a spiritual moment is what will be strived to achieve in this project through unhurried time in nature, which has been shown to foster these moments (Schein, 2014).

Another pillar to Waldorf education is teaching by example. Teachers in Waldorf schools model behavior that they want students to learn, and the students learn by imitating the adult's example (Taplin, 2010). Like Waldkindergartens, Waldorf classrooms are also mixed-age classrooms, which Steiner also believed was a way for older students to model and give help to younger students (Taplin, 2010). Both of these aspects of a Waldorf school are also taken into consideration and used as influence for this project model. Although many Waldorf classrooms today utilize natural materials, focus on time spent outside and shun the use of technology in schools, Steiner himself never wrote about these principals in his works.

A popular criticism to Waldorf education is the mixing of religion and public schools (Follari, 2007). What one must understand is that enhancing one's spiritual side is a part of developing the whole person, which is very important in the early years (Rivkin, 2014). There is also no connection to church or any particular secular religious belief. In fact, many early childhood educational philosophies speak of spirituality in

their own way including Montessori and Gardener, the original creator of kindergarten (Schein, 2014).

Conclusion to Curriculum Models in Early Childhood Education

While the Waldkindergarten model remains at the forefront of this capstone project, different curriculum models such as the project approach, Reggio Emilia approach, Montessori education and Waldorf education are all used to either justify approaches in the Waldkindergarten model or to further enhance this approach. Although the Waldkindergarten curriculum model may not be an accepted curriculum model in the United States today, one can clearly draw comparisons from these other widely accepted models to see how this type of Waldkindergarten model is very beneficial to a young child in need of early childhood education.

Part of the reason that the Waldkindergarten model is not more widely accepted in the United States is certain licensing regulations and other adverse extreme weather conditions that are not present in European nations. Other reasons include cultural differences between Europe and the United States. The next section discusses these challenges to opening a nature-based preschool in the United States.

Challenges to Opening a Nature-Based Preschool

Many challenges exist in the starting of any new business, but they are especially apparent when opening a center with the intention to care for children. To do so, there are many licensing regulations that must be adhered to in the state of Minnesota for the safety of the children. This can make it difficult to obtain licensing for a nature-based preschool, but not impossible. There is also the issue of children being outside in inclement weather, which in Minnesota can be extreme. Fortunately there are ways to

work around this and keep children safe and comfortable in any climate. Additionally, there is the challenge of societal acceptance of a nature based preschool.

This fear of acceptance can come from many issues, but the most prominent of these include fear of children playing outdoors due to environmental hazards present and the belief that children need to participate in formal learning structures in order to succeed in school (Wolf Fritz, Smyrni & Roberts, 2014). This part of the chapter focuses on fear of children playing outdoors, as well as six cultural values that act as a challenge to initiating a forest school in the United States compared to Europe as presented by Wolf Fritz (as cited in Sobel, 2016), as well as strategies for keeping children safe and comfortable during inclement weather. Since licensing is something that will be covered in depth in the business plan, and there are also currently no literary sources regarding this topic, it will not be covered here.

Fear of Children Playing Outdoors

The fear of children playing outdoors, especially playing unsupervised outside, is a relatively new fear in American society. According to Louv (2008), “fear is the most potent force that prevents parents from allowing their children the freedom they themselves enjoyed when they were young,” (p. 123). A study by Singer, Singer, D’Agostino, and DeLong (2009) also reported parental fears stemming from children’s safety as a barrier to outdoor play. A survey reported in Louv’s (2008) book stated that 56% of parents said that by the time they were ten years old they were allowed to walk or bike to school, but only 36% of those same parents surveyed would allow their own children to do the same.

Louv (2008) called this fear “boogeyman syndrome” and spends a chapter of his book, *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder* debunking common myths involving parental fears of letting children explore freely in nature. One of the most common myths, according to Louv (2008), is fear of strangers and harm or abduction by strangers. He cited multiple sources from different agencies saying that the actual annual figure of stranger abductions is between two and three hundred each year, and has not grown since 1990 (as cited in Louv, 2008). He blamed the media and generalized social anxiety on parental fear of nature, and claims false statistics may also be partly to blame (Louv, 2008). In fact, by 2008 the rates of violent crimes against young people had actually fallen to well below 1975 levels (as cited in Louv, 2008). Louv (2008) argued that the greatest risk to children is not letting them outdoors unsupervised but rather children’s health and mortality rates.

This cultural fear of children spending time in nature may be the largest contributing factor to children being disallowed from spending free time in nature, and may also play the role of a challenge to parent buy-in of a nature-based preschool. A parent’s fear and lack of education about the benefits of children playing outdoors may sway parents from enrolling their children in this type of school environment. In addition to this fear, other cultural challenges also exist. In the following section Wolf-Fritz and Sobel provide an overview of differences between European and American attitudes and how these make the institution of a nature-based preschool more challenging in the United States.

Other Cultural Challenges Associated with Nature-Based Schools in the United States

Wolf Fritz is a respected educator in the field of Waldkindergartens and nature preschools in the United States, and a European-native. In a 2013 presentation, Wolf Fritz has laid out six cultural values that make the acceptance of opening a nature preschool in the United States a challenge. She specifically compares and contrasts the United States to Western European countries, specifically those who have embraced the concept of nature preschools and Waldkindergartens, and draws a parallel to why nature preschools are more widely accepted in European countries and why the idea of this type of school in America is more challenging due to American cultural values. First these challenges are discussed, and then strategies to overcome these cultural differences are explored.

Value placed on academics versus play. Wolf Fritz stated that the cultural value American parents place on academics, specifically early academics, is much different than the European attitude. Europeans consider preparing for formal education to consist of developing motor skills, social and emotional skills (as cited in Sobel, 2016). However, American families see formal school preparation as being entirely focused on the academic aspect of learning letters and numbers and being prepared to score well on standardized exams (as cited in Sobel, 2016). Wolf-Fritz theorized that the later starting age of formal school in Europe, of age six or seven as compared to five in the United States, may also be a contributing factor to the difference in cultural attitude (as cited in Sobel, 2016).

Role of the teacher. There is no such role as “early childhood education teacher” in Europe. In fact, when Wolf Fritz made the mistake as referring to Waldkindergarten

staff as “teacher” in a German Waldkindergarten, the staff member looked at her perplexed (as cited in Sobel, 2016). In Europe, this profession is known as ‘playworkers’, a term that is foreign to the United States. The challenges of a ‘playworker’ as seen by American parents are several. First, there is no product to show as a result of work, something American parents seek as “proof” of learning (as cited in Sobel, 2016). There are also no measurable growth indicators, a factor that is often considered mandatory in many American preschool programs. In Minnesota, it is a licensing standard that conferences be held with parents bi-annually to share growth progress and indicators with families. In order to be a part of an accreditation program, such as the North American Association for the Education of Young Children, measurable growth indicators must also be tracked.

Many observers of ‘playworkers’ often misinterpret the teaching style. For example teachers may be seen as uninvolved, not in control, not caring or untrained (as cited in Sobel, 2016). Often ‘playworkers’ will make the decision to stand back and allow children to solve their own conflicts, something that is easily mistaken in American culture as a failure to discipline (as cited in Sobel, 2016). This is different from American preschool teachers who are taught to step in and help a child resolve a conflict. American teachers are also often apt to take care of a child’s needs for them, such as zipping up a coat or buttoning pants, while in Europe this is discouraged.

Safety. The European attitude toward safety is that in order to keep children safe, children need to learn to assess and take risks on their own (as cited in Sobel, 2016). In this respect, children at Waldkindergartens are often found climbing trees, whittling with knives or tending to a fire. American attitude toward risk is to minimize all risk (as cited

in Sobel, 2016), often to a fault where many childcare providers are actually so fearful of litigation that they will minimize outdoor time (Sobel, 2016). This difference in attitude toward safety can cause parent apprehension in a Waldkindergarten-inspired setting.

Cultural concept of fun. Wolf-Fritz stated Americans live in a society that glorifies fun (as cited in Sobel, 2016). From her own personal experience, Wolf Fritz finds many parent's first question to their children at the end of the day is, "did you have fun?" (as cited in Sobel, 2016). She found that when children do not have a fun day, parents often get frustrated. In the European mindset, the development of resilience must be above fun, and this characteristic of nature-based schools is something that can be hard for American parents to accept (as cited in Sobel, 2016). European attitudes, reports Wolf Fritz, already value resilience and do not have a glorified concept of fun (as cited in Sobel, 2016).

Cultural concept of nature. In addition to a glorified concept of fun, Wolf Fritz finds that Americans often romanticize the concept of nature (as cited in Sobel, 2016). She finds that in comparison to European counterparts who often spend more time outside biking or walking on a year-round basis, Americans view of nature tends to be from the inside out (as cited in Sobel, 2016). This is referring to how Americans tend to view nature through a window inside of a home, or through a piece of art, rather than physically immersing oneself in nature. Wolf Fritz postulated that this leads to an unexpected rawness of the reality of experience with nature in all climates, which American parents are sometimes unprepared for (as cited in Sobel, 2016).

Cultural concept of childhood. Finally, Wolf Fritz (2016) argued that parent perceptions of children and their roles vary drastically from Europe to the United States.

She speaks about how American parents often put their children on a pedestal and treat them like royalty. American parents will often adjust to a child's world, while conversely in Europe parents expect children to adjust to the adult world (as cited in Sobel, 2016). She also reported that American parents often micromanage, or helicopter parent, their children while children in Europe are much more free to make their own choices and mistakes (as cited in Sobel, 2016). These attributes towards the cultural concept of childhood in America can make a nature-based preschool difficult because parents can sometimes have a problem with letting control of their children go and allowing them to come home dirty and bruised. Allowing children to struggle and make their own choices and mistakes at this type of school may be hard for American parents to handle.

Strategies to Overcome Cultural Challenges of a Nature-Based Preschool in the United States

The most important and effective way, according to Wolf Fritz, to combat the cultural challenges of bringing a forest kindergarten concept to the United States, is to educate and communicate with parents (as cited in Sobel, 2016; Kenny, 2013). Wolf Fritz stated programs need to make a conscious effort to educate parents about both the ups and downs of a nature-based preschool experience. Educating other educators and policy makers in the community is also important. Having the support of others in the community who understand the forest kindergarten concept is important and will help to connect a nature-based preschool to families who share a similar vision and would be a good fit for the school (Kenny, 2013).

When talking to parents and others, it is important to clearly state what a forest kindergarten is, and what is not (as cited in Sobel, 2016). Letting parents know what they

should and should not expect, especially from an academic standpoint, will ensure that parents with children in the program or parents considering the program will not be surprised later. Wolf Fritz also stated that it is important to demystify and deglorify the forest kindergarten experience (as cited in Sobel, 2016). To combat the cultural attitude of glorifying fun and romanticizing nature in the United States, ensuring that parents are aware of both the benefits and added challenges of experience in a forest kindergarten will again set the school up for a more successful experience.

Matching families with the right program is also very important (as cited in Sobel, 2016). This is such an important concept that Kenny (2013), who runs a Waldkindergarten out of Vashon, Washington actually has a vetting process for her families and frequently turns families away who she is unsure will be a match with her program. Unhappy parents who are not fully on board with the program can be a detriment to the program by spreading unsatisfactory word of mouth to other parents in the area.

Strategies for Keeping Children Safe and Comfortable

It is not a hidden secret that Minnesota has a variable climate that can range from temperatures in the upper 90's Fahrenheit in the summer to below zero Fahrenheit in the winter. Since forest preschools are open year-round and strive to take children outside every day of the year, the importance of appropriate clothing cannot be stressed enough. As the popular saying in German Waldkindergartens goes, "there is no such thing as bad weather, only inappropriate clothing choices," (as cited in Kenny, 2013, p. 41). It is such an important concept that Kenny, in her 2013 book *Forest Kindergartens: The*

Cedarsong Way, devotes an entire chapter to appropriate clothing choices. Some of her advice for winter months and rainy days is laid out here.

Unfortunately, while some children's clothes can be quite expensive, it is very hard to find quality clothing choices that last, keep children warm and are comfortable (Kenny, 2013). Kenny (2013) has found, through personal experience at her school, these choices to be important to protect children during cold weather outdoors.

Some of the suggestions Kenny (2013) has found useful in children's clothing choices are to choose certain clothing items. One example of this is truly waterproof boots with a neoprene lining to keep feet warm, paired with wool or silk socks to make sure footwear does not get too tight. Furthermore, a winter jacket that maintains its waterproof quality and allows for breathability and freedom of movement is necessary (Kenny, 2013). Rain pants that have a cinch or closure over the boot help to keep snow out, and using rain pants in lieu of snow pants that can easily absorb water is a more suitable choice for leg wear (Kenny, 2013). Under layers that are silk or wool and are loosely fitting make the best base layer, followed by a middle layer of thicker silk or wool and a final heavyweight layer of fleece make up for the lack of insulation in a pair of rain pants (Kenny, 2013). Kenny (2013) has found that sleeping bag style mittens work best with small children as children with cold hands can still easily remove them. A hat should sit high enough on the brow to not cover a child's eyes, and one with ear flaps works best so children's ability to hear is not impaired (Kenny, 2013). Finally, scarves are not recommended as they easily get caught and snagged in the forest, but a neck warmer is an appropriate alternative (Kenny, 2013).

By following the guidelines for recommended clothing choices and brands for children to wear during winter months, children at a nature-based preschool are able to stay warm and therefore safe during all seasons.

Conclusion to Challenges to Opening a Nature-Based Preschool

While there are many cultural and logistical challenges to opening a nature-based preschool in the United States and in Minnesota in particular, there are also strategies to overcome these challenges. It is not impossible to start a nature-based preschool in Minnesota, and in fact there are a few businesses that are already doing so. Some of the strategies to overcome cultural differences include education and community awareness and involvement. The best way to keep children safe and warm in Minnesota winter months is to use appropriate clothing choices, such as those recommended in this literature review. The next section of the chapter relates the preceding literature review back to the original research question, contains a summary of this chapter and a brief introduction to Chapter Three.

Conclusion of Literature Review

At this point all of the important research topics of this literature review have been recorded. This next section focuses on relating the literature review back to the original research question, *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota*, in detail.

The literature review of the benefits of nature-based preschool shows that there is numerous cognitive and mental health related benefits when children spend time in nature. What is unfortunate is that on average children in the United States are spending

less and less time in nature. While this can be for a varying number of reasons, a lot of these reasons can be solved with a nature-based preschool. For example, if parents are not letting their children spend time outdoors because of fear-based issues, allowing them to attend a nature-based school can alleviate this by allowing them time outside while still under the supervision of a responsible adult.

If time is a constraint to children playing outside, a nature-based school is also a perfect solution. Parents do not have to take any extra time out of an already busy schedule to make time for nature on top of attending preschool or other activities; nature time is already built into their preschool schedule. The rising amount of time spent on electronics can be another barrier to nature access. At a nature-based preschool, spending time outside is valued over electronics, which actually do not exist in this type of nature-based program, so this barrier is therefore eliminated.

The fact that a nature-based preschool can eliminate so many of the barriers to getting children outside proves its importance. Since this proposed school will be available for full-day care it also provides an opportunity for children who are in need of full-day care to have means to time spend in nature. It may be especially important for these children to be provided the opportunity, as single-parents or dual-income households may find it harder to make time for children to spend in nature with their busy schedules.

There is a distinct lack of nature-based preschools in the United States, as well as in Minnesota. As discussed, with the amount of preschool-aged children in Minnesota there is clearly a disparity between the number of slots available at a nature-based school and the number of children there are to serve. This lack of available nature-based

preschools found in the literature review also shows the importance of this capstone project. If some of the barriers to others starting or converting their schools to nature-based schools in Minnesota are diminished through this project, it may prompt more schools to open or transition to a nature-based program.

There are clearly a variety of early childhood education curriculums to choose from, and not all of them were mentioned in this literature review. Differing opinions of which curriculum is best is healthy, and promotes change and forward thinking in the discipline. The reason so many curriculums were looked at in this literature review is that the author believes that not one of these curriculum methods has it completely right. Pieces of each curriculum method have been taken to make what the author feels is the “perfect” nature-based preschool curriculum for a Minnesota environment, as well as child development. While others may not agree with this, there is at least a basis of already studied models and proven curriculum models provided for others to use to create their own perfect model. It will prove to be seen in the future if this model is effective, and at this point the author plans on publishing further work regarding this method and her future recommendations after personal experiences with this curriculum model.

The societal fear of letting children play outdoors discussed in the challenges to opening a nature-based preschool section could be boiled down to lack of education on the topic. While there is certainly an amount of risk to really any activity, the risks associated may have been blown out of proportion by the media, as Louv (2008) suggested. Unfortunately, all the benefits of children spending unstructured free time in nature have not received as much publicity. Hopefully, this literature review can at least help to start educating others on the many benefits of spending time in nature for

children, and help to start to change societal views on the subject. Certainly at least some parents understanding and valuing nature play over perceived fears is very important in creating a nature-based preschool in this space, as the success of such a school depends on this.

The section on challenges to opening a nature-based preschool in this literature review hopefully work to help potential nature-based schools to lessen the societal fears and pushback associated with opening a nature-based school. Providing options for winter clothing that have proven effective in the past should also help alleviate some concerns regarding the cold weather in Minnesota, and show that while our climate may be an added challenge, it should not be a reason to avoid opening a nature-based school in Minnesota. A summary of this chapter follows.

Summary of Chapter

This literature review started with an introduction to the topic, and a restatement of the research question, *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* This chapter has four major sections of research: the benefits and importance of nature-based preschools, availability of nature-based preschools in the United States, curriculum models in early childhood education, and challenges to opening a nature-based preschool.

The third chapter is an in-depth project description detailing how the project was conducted and discussing the intended audience, the context the project takes place in, what frameworks and theories are included in the project as well as when it took place. Chapter Three first introduces the intended research project portion of this capstone. The

research that supports this approach is discussed, including McKeever, Kenny and Rogers, and Dodge Nature Preschool. A setting of the project, describing the desirable physical location in detail, as well as aspects of the local community, follows this. The audience of the project is also considered as well as a timeline for the completion of the project during the spring of 2018. Setting and audience are also an important aspect of the project, as well as choice of a business plan as the project method, and are also justified in Chapter Three.

CHAPTER THREE

Project Description

Introduction

Minnesota is the land of 10,000 lakes. It is also home to a wide variety of plant and wildlife, four unique biomes and some of the most dramatic changing of the seasons in America. What an amazing setting for children to spend ample amounts of time outdoors in nature, exploring this beautiful state. A nature-based preschool is the perfect way for young children to do this. At this moment, there is a limited number of this type of preschool available in Minnesota. This capstone project aims to answer the question, *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?*

The intended outcome of this project is to inspire others to take advantage of the natural beauty available in Minnesota and help ease facilitation of some aspects of starting a licensed preschool by providing a suggested business plan and sample curriculum for such a school. This chapter is comprised of an overview of the project, followed by the choice of method, which justifies the type of project this is and leads to a

discussion of the research framework used, explanation of the setting and audience for the project, and a timeline of the completion of various parts of the project.

Project Description

The project is a business plan for a Waldkindergarten-inspired all-day nature-based preschool in Minnesota, specifically in the Twin Cities area that serves preschool children ages three to five. The business plan includes everything that is needed to present to a lender to ask for a start up loan for the business including business description, marketing plan, sales and profit and loss forecasts, business goals, a trend statement, and personnel plans. The plan also includes all related appendices needed to supplement detail in the plan.

The project also includes a curriculum aspect for this school, as this is a part of the licensing process and necessary to opening a nature-based preschool in Minnesota. The curriculum aspect is an outline of potential curriculum topics; coupled with a PDF forms to fill in with lesson plans as the staff or myself create them. These pieces of the curriculum will then be put together to present to the state of Minnesota for licensing purposes, and to the National Association of the Education of Young Children for purposes of accreditation. These samples are meant to show what a full curriculum book will look like and give an example of the types of things children will be learning at the school. Further details are discussed in the Setting and Audience section of this chapter.

Choice of Method

A business plan is an important step to starting any business. While it is not a mandatory step to opening a new business, there are several reasons it is a good idea to write a business plan. One reason is that it helps secure investments (McKeever, 2017).

Most lenders or investors require a written business plan before investing, and even some landlords require a business plan before leasing a space (McKeever, 2017). A business plan can also help decide whether a particular business is or is not a good idea. A business plan will take an entrepreneur through the strengths and weaknesses of a business and help the entrepreneur discover what the realistic chances of success are (McKeever, 2017). In fact, the Harvard Business Review found those entrepreneurs who took the time to write a business plan were 16% more successful than their counterparts who did not write a plan (Greene & Hopp, 2017).

Writing a business plan can help improve a concept without laying out any cash, and improve odds of success (McKeever, 2017). By helping a business owner plan ahead, a business plan can keep an owner on track and anticipate problems allowing them to be solved before they become emergencies or disasters (McKeever, 2017). Several texts were used in the creation of this business plan and supplementary resources. Those texts are discussed in more detail, below.

Research Framework

Multiple research frameworks help to shape this project. The business plan, the largest component of this project capstone, is based off a business plan writing model in McKeever's (2017) text *How to Write a Business Plan*. The text is in its 13th edition and has been in print for over 30 years. It is the longest-running text of its type. The author has a master's degree and teaches college courses as well as consults for start-up businesses. The text also stays up-to-date by providing supplementary resources and updates accessible online.

The aspects that specifically involve Waldkindergartens or nature-based preschool methods that are a part of the project, both in the business plan and curriculum guide, are based off several books by respected authors in the nature-preschool field. The first is a generalized resource created with the goal of ensuring a foundation for new environmentally based early childhood education programs. The work is produced by perhaps the leading early educational authority in the United States, the North American Association for Environmental Education, or NAAEE. The *Early Childhood Environmental Education Programs: Guidelines for Excellence* (2016) provides a great general resource for nature-based early childhood education programs with a chapter dedicated to curriculum framework. This work was considered throughout many aspects of the curriculum and business plan.

The second resource is written and edited by David Sobel (2016) titled *Nature Preschools and Forest Kindergartens*. The text talks about different aspects of nature-preschools and forest kindergartens as well as advice for starting up this type of business. It was written specifically for the United States market by Sobel and also includes chapters written by many other well-respected authors in the nature-preschool field including Kenny and Bailie, previously used in the literature review. A third text titled *Establishing a Nature-Based Preschool* was written by Larimore in 2011. Larimore runs a nature-based preschool in Michigan and also has an M.A. in park and recreation administration. This text is similar to Sobel's, except that it focuses more on the business aspect of nature-preschools.

A well-established nature-based preschool that has been gracious enough to lend their curriculum to others who wish to use it is Dodge Nature Preschool in Saint Paul,

Minnesota. Dodge Nature Preschool published *Four Seasons at a Nature Based Preschool* in 2005, and this work will also be used as a guide to establishing the curriculum for this business plan. Dodge Nature Preschool curriculum has been approved and accredited by the National Association for the Education of Young Children, as well as written by authors who have published other works in the field and therefore is a reputable guide to use for this project.

Resources from the Minnesota Department of Human Services (MN DHS) are used to evaluate licensing rules. These MN DHS licensing rules can be accessed online at the DHS website. These rules lay the groundwork for all childcare centers in Minnesota. Any childcare center in the state of Minnesota, whether a family childcare out of someone's home or center-based care must be licensed per state regulations. It is pertinent to follow these regulations when establishing a business plan for a preschool, as many facets of the business plan will be affected by these rules.

Beyond the rules that the MN DHS sets forward, centers may opt to be accredited by one of many accreditation agencies. Some agencies are state-specific, while others are nationwide. A popular and also the first national accreditation agency is the National Association for the Education of Young Children, or NAEYC (naeyc.org, n.d.). In 2003 over 8,000 schools in the U.S. were accredited with NAEYC, with 171 of those schools being in Minnesota (Surr, 2004). In order to be accredited by NAEYC, some rules beyond what the DHS puts forth must be followed, which are discussed further in the curriculum outline portion of the accompanying project.

It is a good idea to choose a national accreditation agency to independently accredit a preschool beyond the state licensing because it sets a center apart from the

crowd. It can also evoke trust from parents that certain educational standards are being met. Furthermore, it is a way to promote business as parents are able to search and look up the school's information through the NAEYC website. This business plan will also incorporate NAEYC curriculum standards that aim to guide the center to set up in order to be potentially accredited by NAEYC after opening. Please note, accreditation from NAEYC is not guaranteed, and must be met and evaluated independently through the NAEYC organization. Fees must also be paid for these services.

The setting for this nature preschool was an important aspect in the creation of this business plan. The future customer must be considered so that the business can be tailored to their needs and desires. Complementarily, the business must be located in a neighborhood that can financially support the business as well as welcome and accept this type of business. These qualifiers are discussed in more detail here.

Setting

Location

The location of the proposed school is within the seven county metro of the Twin Cities in Minnesota. This area was chosen because it is where I reside. It is also the easiest spot of the state to focus on, since over 50% of Minnesota's residents live in this seven county area. Required land will range from 10 to 30 acres. This acreage requirement was chosen with the idea that groups of children should be able to explore freely without seeing other groups, as well as having enough acreage for various land conditions such as field, forest and stream areas. The ideal grounds will have a variety of different land features, such as hills, streams, and forested and open areas for the children to explore. A water feature of some sort would be highly ideal as children are naturally

very attracted to water. These features are supported by NAAEE who suggest a physical environment that is varied and possibly includes “ample shade, sunny spaces, windbreaks, open areas, small hiding places or refuges, gathering areas, areas for building, and areas for art and music and movement” (p. 47, 2016).

The competition already established in this area includes several day nature preschool programs, none of which run longer than three hours. No all-day care centers that are nature focused are currently located in the area at the time of this writing. Other competitors may be traditional preschool centers, or centers that are able to charge a lesser price, such as in-home care.

Community

The community chosen within the seven county metro area of the Twin Cities should be an above-average household income community with a large population of young families. A community with high median income will have an ample amount of families that have enough funds to pay for an enhanced preschool experience such as this. Because families using state-funded childcare assistance are allotted less per week for care than the suggested tuition price for this school, those parents would have to make up the difference on their own and are less likely to enroll their children.

Wealthier families also tend to be from families that have an interest in alternative care models for children, such as a Waldorf inspired school, private nanny or other private childcare. This inference comes from the knowledge that these types of childcare tend to be more expensive, and therefore more easily obtainable by above-average income families. Noticeably, these types of schools will be situated in the wealthier neighborhoods of the Twin Cities, as is witnessed by Everbrook Academy in Woodbury,

City of Lakes Waldorf School in the Uptown neighborhood, and Kinderberry Hill Schools being located in Eden Prairie, Edina, Plymouth and Woodbury; all neighborhoods with an above-average median income. Once a healthy scholarship fund is established in the future, outreach to other income levels may be established.

Staffing

Staffing needs will be one director, who will also serve as the first full-time teacher, and three other full-time teachers to start. This allows enough staffing for children to be supervised during all hours of care based on 18 enrollments, as well as have breaks staffed and allows the director time to work on administrative needs. Higher enrollments will call for more staff members to be added. There will be 36 full-time enrollment slots available the first year. This accounts for six groups of six children, who will be divided into two classrooms of eighteen with one teacher for each group of six children.

While the state of Minnesota and NAEYC standards call for one teacher for every ten preschool children, many nature-based preschools have found that smaller groups of children work better from a both a safety standpoint and an educational standpoint, as the teacher is able to be more attentive to each child's needs and questions. Cedarsong Nature School in Washington and Dodge Nature Preschool in Saint Paul, which were personally toured by this author, both follow a staffing pattern of six to one. Therefore, this staffing pattern is based on having enough staff on site to maintain a staff to child ratio of six to one.

Two classrooms of eighteen were chosen for licensing purposes. Minnesota licensing allows for two groups of ten children in each classroom setting, which must be

set up to Minnesota state standards. Therefore, it was decided to combine three groups of six into each classroom, creating two classroom set ups for a total of thirty-six children. Creating separate classroom spaces for each group of six children would be economically infeasible as well as call for more than necessary building space and classroom supplies.

Building

The building will be a pole-barn style building either existing or new-build. This type of building is economically feasible from a start-up business standpoint. It can still meet all of the necessary licensing requirements from the state of Minnesota, as well as be outfitted to be environmentally friendly and insulated for the Minnesota weather. Electricity, phone and cable will be necessary. Sewage is optional as composting toilets and potable water may be carried in. Carrying in potable water comes at an increased cost over time, but can save on the initial large investment of installing a well. There will likely be no city water or sewage at the type of rural site that is required for this school.

Project Audience

The intended audience of this project is anyone who is interested in opening a nature-based preschool in Minnesota. It could also serve as useful to those who are wanting to transition an existing program. Some parts of this project may be useful to nature-based preschool teachers as well. In order to stay on track with this project so the intended audience can view it a timeline is necessary, and follows.

Timeline of Project

This project took place from February to May 2018. During these four months I worked to establish a business plan and create curriculum for the proposed nature-based preschool. The first steps were identifying goals, describing the business and creating a

break-even analysis. Next an example personal business accomplishment resume was created and personal financial statement discussed. A profit and loss forecast and cash flow forecast must also be assembled for a new business, and were mentioned in the project. Drafting marketing and personnel plans were the next steps, followed by putting all of the pieces together into a formal business plan. A proposed budget for materials was also be included, as this will be necessary to apply for scholarships for the proposed school. This portion of the project took two months to complete.

Once the business plan was complete, a curriculum was created. The curriculum was designed utilizing NAAEE's resource *Early Childhood Environmental Education Programs: Guidelines for Excellence* coupled with the research compiled in the literature review portion of this capstone. According to state statutes, the created curriculum must follow the guidelines of MN DHS licensing standards. Furthermore, the created curriculum voluntarily follows the NAEYC standards, which often hold a school to higher standards than the state in order to be eligible for future accreditation from the organization. The creation of a curriculum outline took roughly one month to complete.

Following the completion of this capstone project, more resources such as a family handbook, staff handbook, and hiring documents will need to be created. Once these things have been established, the licensing process in the state of Minnesota can take upwards of six months to complete. A projected fall opening date is desired based on the Minnesota weather patterns being more optimal than starting a school during the colder months, and also the alignment of a fall start with the traditional public school year. Further details of the next steps of the project are discussed in the business plan. Discussed next is an evaluation method for the project.

Evaluation of Project

The successfulness of this project will be determined by how useful the project proves to be in the actual creation of an all-day nature-based preschool in Minnesota. Putting this project together has prepared the author to move forward with establishing a nature-based preschool through forming a deeper sense of the available resources as well as steps needed to open this type of school in the intended location, and in this way has already been successful. Success may also be derived from others who find the project to be valuable as well.

Conclusion

Chapter Three introduced the intended research project portion of this capstone. The research that supports this approach was discussed including McKeever, NAAEE, and Dodge Nature Preschool. A setting of the project, describing the desirable physical location in detail, as well as aspects of the local community, followed this. The audience of the project was also considered as well as a timeline for the completion of the project during the spring of 2018. Setting and audience are also an important aspect of the project, as well as choice of a business plan as the project method, and were also justified in this chapter.

Chapter Four provides a conclusion to the capstone project. It discusses what has been learned through the process as the author. It will also revisit the literature review and discuss what proved to be most important to this capstone. Possible implications and limitations of the project will also be assessed. An evaluation of possible future similar projects is presented, as well as how the business plan will be communicated and how it is a benefit to the teaching profession.

CHAPTER FOUR

Conclusions

Introduction

“Come forth into the light of things, let Nature be your teacher,” William Wordsworth, 1798 in the poem “The Tables Turned” (Wordsworth and Coleridge, 2011). Letting children spend unstructured time in nature may be one of the best ways to develop social and interpersonal skills in young children. In turn, Minnesota is home to many species of flora and fauna, making it a special place and a great setting to allow nature to be a child’s teacher. This capstone project focused on the question *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* The project of this capstone looks to answer this question by providing a business plan for such a school and offering an example curriculum guide.

The following chapter discusses the literature review and what has been taken away from the review by the author. It also assesses what has proven to be the most important to the capstone from the literature review, and what information was ultimately not used for the project. As with any project, there are possible limitations to the work,

and these are discussed here coupled with future implications of the work. A discussion of possible future projects related to this work is presented as well as a plan for the communication of the project to the appropriate audience. Finally, an assessment of the usefulness of the project to the teaching profession is considered. First, the literature review is revisited, below.

Literature Review Discussion

This section of this chapter first provides a summary of a section of the literature review, followed by personal commentary and discussion of the portion of the literature review summarized.

Benefits and Importance of a Nature-Based Preschool.

The first section of the literature review discusses the benefits and importance of a nature-based preschool. First, current roles of early childhood education and environmental education are discussed, along with how these two disciplines interact with each other. Then, both cognitive improvement areas and mental health benefits to children spending time in nature are covered. After that a discussion of the disadvantages of traditional preschool takes place. Finally, the importance of access to nature based preschools, with an additional focus of the benefits of attending a full-day program versus a half-day program are deliberated.

While researching this first section of literature review, I was surprised at the lack of studies available regarding children and media use. As it is such a common practice today for children to spend time almost daily on a tablet, phone or other media device one would think there would be numerous studies regarding the amount of time children are spending looking at screens and the effects this has on them. I struggled to find an

academic source that studied the amount of time children spend on screens, only finding a study conducted back in 2003. Instead I had to rely on a poll by a nonprofit organization for my information on children and media use, which may not have been as reliable and scientific as an actual study.

The poll that I was able to obtain regarding children's media use stated numbers that I found to be surprisingly low as far as how much time children spend using a handheld device. From my personal experience witnessing children in various jobs (daycare center and retail), as well as personal experience with small children in my family, I found the study's reported 48 minutes of screen time a day for a child under the age of 8 to seem too low as the children I have observed seem to be using some sort of device almost constantly (Common Sense Media, 2017). Perhaps this is just because of my focused perception of children's use of media, but it could also be from underreporting of parents who did not accurately report or did not want to accurately report the correct amount of time their children actually spend in front of a screen. Perhaps income level and the cohort of parents surveyed also played a role in the reporting. Again, it would have been a much more scientific study if a group of children was randomly sampled and tested using a way that timed children's actual use over a number of days, rather than rely on parental reporting of screen time. Conducting this study in the future may prove to be useful research.

I was unable to find research on the benefits or drawbacks of preschool children attending full day versus half-day school. Instead I had to rely on studies done on full day versus half-day kindergarten. There are obvious differences in children's developmental stages and abilities between age three and kindergarten. Further research should be done

on the effects of children attending a full-day preschool versus a half-day school. This research would be of particular importance right now because of the focus on pre-kindergarten schooling for a large amount of school districts and states, and because of many modern families having both parents or the main caregiver working outside of the home and creating a necessity for full-day care. It was once again surprising to me that these studies have not already been conducted. Perhaps this is because those doing research are focused more on public school systems and not typically for-profit childcare centers for children under school age, where the vast majority of preschool programs are located. With the popularity of pre-kindergarten programs by school districts, perhaps this will soon change.

Availability of Nature-Based Preschools in the United States

The next section of this literature review is titled availability of nature-based schools in the United States. It speaks specifically about the lack of availability of nature preschools in the United States, and then looks further into the lack of nature-based preschools in Minnesota and some current trends of traditional Minnesota preschool programs.

I believe the biggest reason there is a lack of nature-based preschools in Minnesota, and further a lack of full-day nature-based preschools in the United States, boils down to convenience. It is not convenient to open a full-day school. It says this rather apparently in the manuals written by well-respected names in the field. There are more licensing regulations and supplies needed when opening a full-day school, and it is often easier and more profitable to open a half-day school or provide two half-day sessions. It is also not convenient to open a nature-based preschool in Minnesota due to

the weather. There are also a lot of extra safety considerations to think about. There is also the need for a structure or building, which is not necessary in some other states or for a part-day program. This added expense coupled with the inconvenience of operating a nature-based preschool in varying weather conditions are likely what is preventing others from doing this. There is nothing to be done about these inconveniences they are what they are. Someone who wants to open a nature-based preschool in Minnesota must accept and overcome these barriers. The hope is the project part of this capstone will help myself and others accomplish this.

Curriculum Models in Early Childhood Education

The third section of the literature review covers curriculum models in early childhood education. After discussing why curriculum is important in early childhood education multiple curriculum models are laid out. These curriculum models include the Waldkindergarten model, the project approach, Reggio Emilia approach, Montessori education and Waldorf education.

The biggest challenge I had with the curriculum models for early education was how to incorporate these into my project. A lot of these models really depend on the atmosphere of the center, as well as the teaching style of the staff. It was hard to communicate this in the project artifact. The educational approach would likely be more clearly presented in a staff manual or family handbook that lays out the schools teaching and discipline policies. For example the school's lack of emphasis on timed tasks and letting children learn at their own pace is not something that can be revealed by a business plan or curriculum activity. The physical space of the school and the elements

included in it are another way to communicate what curriculum models are being used, and this is also very hard to communicate in a paper.

In this section the term “flow” by Csikszentmihayli was once again covered. This is a new term and new author that I discovered during the writing of this paper. I had previously described the term flow in my own words in Chapter One but was then turned on to Csikszentmihayli’s work by one of my literature reviewers. It was enlightening to see what I had described previously defined by another and to be able to read more about the topic. It was also wondrous to know that this “feeling”, which is something that I had derived personally but unscientifically, is a true educational term and has been proven to help children learn.

Challenges to Opening a Nature-Based Preschool

The final topic of the literature review presents challenges to opening a nature-based preschool. The largest fear, the fear of children playing outdoors, is discussed first. Then six other cultural challenges are examined. These include value placed on academics versus play, role of the teacher, safety, cultural concept of fun, cultural concept of nature and the cultural concept of childhood. Next, strategies to overcome these cultural challenges are reviewed. Finally, strategies for keeping children safe and comfortable during the winter are assessed. This section leads into the conclusion, where first the rationale is given for each research topic, and relation of the literature to the research question is discussed.

There is not a plethora of literature that speaks about why Waldkindergartens have been slow to take off in the United States market. I was able to find one source, Wolf Fritz, who happens to have a unique perspective on the situation. Wolf Fritz grew

up in Europe and is familiar with the European Waldkindergarten culture, and then came to America hoping to keep a similar career, so she is in a unique position to understand why Waldkindergartens have been slower to become popular here. Again, more research into this topic and ways to overcome challenges of the United States Waldkindergarten market would be helpful. For now, Wolf Fritz dominates the cultural differences part of the literature review as the only expert available on the subject. Because of this, Wolf Fritz proved to be a very influential part of this section of the literature review, creating a few new connections for myself with her work.

Since Waldkindergartens are not a popular trend in the United States, it is not surprising that there are no research studies conducted on Waldkindergartens here. All of the studies found were from Waldkindergartens in Western Europe. There are some articles that were focused on nature preschools in America, but again overall the research on the subject in the United States in particular could be greatly expanded upon.

Finally, there were no resources available as guides to licensing of a new preschool. My educated guess is this would fall on several reasons. First, each state has different licensing laws, and in fact some states do not mandate that childcare centers even be licensed. This would make publishing such a book or manual very hard, as there would have to be a different version for each state. Furthermore, most centers that are opening are usually part of a chain, such as KinderCare or a Learning Care Group center that both dominate the childcare center market. Because these are large companies with abundant resources, they can afford to hire people to be experts on the topic and therefore are not in need of a guide or resource explaining the steps to opening a childcare center. For childcare programs that are not owned by a corporation, in-home family childcares

are by far the most popular, and there are resources available for these. However, the licensing rules are so vastly different for this type of care versus a center-based care that this type of guide would be almost useless to someone wishing to open a center in Minnesota. The licensing rules that govern Minnesota also account for a few of the implications of this project, and are reviewed in the next section.

Implications and Limitations of Project

The main implications of this project include further research in many areas, which is discussed in further detail in the future research section of this chapter. There are a couple of Minnesota policy implications that have arisen from the literature review and the writing of the business plan for this project, which are as follows.

Thankfully in Minnesota at this time there are no policies regarding when children are and are not allowed to go outside. Instead, this is left up to the individual school district or organization to decide. Hopefully, with all the benefits of children being outside during all seasons presented here, coupled with the recommended list of proper clothing for children to wear to be safe in extreme temperatures, Minnesota will not add policy prohibiting children from playing outside in extreme weather. Obviously, children's safety is still a paramount issue and time outside should be regulated by any school and the comfort of children should be monitored at all times, however it is refreshing that this call is left up to the teachers or centers.

It would, however, be nice if Minnesota were to loosen the policies on the furnishings that must be provided in order for a center to be licensed in the state of Minnesota. While it is understandable that these policies are in place to ensure that there is adequate stimulation and an appropriate environment for children, what is not

considered in Minnesota policy is all the ways the outdoor environment can provide some of these requirements. Instead, for a program like the proposed preschool here, some of the items will have to be purchased and housed in the classroom even though they do not fit into the *modus operandi* of the school. For example, “an adequate amount of single service towels” (Department of Human Services, 2013) is a requirement, which could be met in other ways that are more environmentally conscious. Another example is “one set of cognitive developmental equipment and materials, such as puzzles and number and letter games, per child” (Department of Human Services, 2013) which could be met by using natural, found materials outside. Instead such equipment must be purchased. While it is possible to find wooden versions of such cognitive developmental equipment, this material type is often more expensive than plastic versions, giving an added cost to the school. It is proven in the literature review section of this capstone that these materials are not requirements for children to be successful later on in school, nor are paper products required for children to be safe and sanitary and therefore could potentially be eliminated, or perhaps allowed to be replaced with natural components or other methods.

The first obvious limitation of this project is that it is geared towards the Twin Cities metro area of Minnesota. Therefore, the project has limitations on its usefulness outside of this area of Minnesota. The effective area that this capstone does cover is relatively small compared to the United States as a whole. Furthermore, the capstone is not all-inclusive of everything needed to open a nature-based preschool in Minnesota. This work is also based on the author’s own research, and not on personal experience with the subject matter. After personally going through this process, the author’s opinions on some of the subject matter may change. Rules and regulations also tend to change

continually and are subject to change at any time, potentially rendering this capstone dated or inaccurate. Some research gaps were discovered when researching for the literature review of this capstone project, and are also a limitation. Future research recommendations that resulted from this project are discussed in detail next.

Future Recommendations

As covered previously in the literature review section, there are several future research study topics that would be beneficial to the discipline if they were further investigated. One of such suggestions was studying children and media use, specifically on mobile devices. This is a broad topic, but what would have been of benefit to this project in particular is time children spend on a mobile device each day, and potential effects of this media use on health. Prolonged effects of mobile device use would also be interesting to note.

A second suggestion is covering the differences in half-day versus full-day care for preschool children. Multiple studies exist on half-day versus full-day kindergarten, and a repetition of these studies on younger children would be beneficial. Tailoring the studies to the different emotional and physical developmental stages of children of these younger ages would be key. More studies involving Waldkindergartens, or nature-based preschools in the United States would also be of benefit. It does seem that there is an emerging increase in studies of this type as the discipline grows in the United States; so hopefully in a few years there will be ample sources on the subject specifically for American children. On a more general note, studies looking at the impact of the typical American way to rear children versus that in other countries would be of interest to look

at, specifically as these children turn into adults. There may be data on this topic already, as it was not specifically looked into for this project.

Finally, while more resources regarding childcare licensing would be helpful to someone such as myself, it may be such a niche topic that it is unwise to spend resources looking at the topic. For reasons stated above about the differences in child care laws in each state, as well as the fact that these laws are constantly changing and revising and there are not many people looking to set up their own child care center that are not a part of a large corporation make this a very niche topic. While it would be nice if there were guides available, I understand why there is not. Because of this fact, it is my hope that this project will be able to help or inspire someone else to be willing to try this him or herself by providing a guide to get started on the general path to opening such a business in Minnesota or potentially beyond.

This project certainly is not all-inclusive in itself of all the resources one would need to start their own nature-based preschool in Minnesota. Beyond what I have provided here it would be beneficial to the discipline to add more to this work. This would include a full curriculum guide, teacher handbook and resources, family handbook, center policy manual and all of the supplemental licensing documents required prior to opening a center in Minnesota. The supplemental licensing documents are a vast number of requirements that are too numerous to be listed here, and also are not currently condensed into a single checklist for the state of Minnesota, but rather found in various locations in the Minnesota DHS Rule 3 state statutes and must be pieced together. In order for the project to be beneficial to others it must be communicated. Details of the communication plan for this project are laid out in the following section.

Communication of Project

This project is only beneficial to the profession if it is effectively communicated with the public. Additionally, the project will be used personally, which is also discussed here. Communication of this project will be via several online methods. First, the project will be posted on the Digital Commons of Hamline University. Here, the public will have access to this project via an online search. A link to this project will also be posted on the website for the nature-based school when it is up and running. This way if someone were to find the site for the school and be interested in pursuing their own similar school, they could also easily access the document as well as myself for questions. Finally, I will have a printed version available at the school that others will also be able to use on-site or checkout if interested.

If, in the future I decide to bring the project further it is possible that I may put together even more documents beneficial to opening a preschool in Minnesota and bind them together in a book format. It may also be an enjoyable side project to offer counseling service to others once the school has been in operation for a few years and I am knowledgeable enough to be a business consultant in the field. If this becomes the case, this document will also serve as a informative document for those clients to read and use as a guide.

I plan to personally use the results of this project as a starting point for the set up of my own nature-based preschool. I will follow the timeline outline laid out in the business plan over the next year to implement this project in Lakeville, Minnesota. I will need to add a lot more to the project and also finish the curriculum outline. Detailed

numbers will be added to the business plan to present a fully completed project for review by potential backing sources.

The research done throughout this capstone has given me a large amount of insight into topics researched in the literature review. Preparing the business plan and going over it with a business consultant allowed me to correct any inconsistencies, as well as provide a more solid plan and opened my eyes to new ideas I had not yet thought of that I believe will prove to be very useful in the actual real-life use of this business plan. Benefits of this project are discussed next.

Benefits of Project

The benefits of this project to the profession are discussed, here. At this point in time there are a few books and other resources available to those who are interested in pursuing a nature-based preschool in the United States. However, until now there has not been a manual that provides information on this specifically for Minnesota, or for any other state to my knowledge. The benefit of this to the profession is that others interested in nature-based early childhood education in Minnesota will be able to easily gather background information related to Waldkindergartens, nature-based preschools and other relevant topics that are specifically constructed with Minnesota in mind, making the information more detailed than anything currently available.

The literature review gathered in this guide may serve as purposeful to a broader audience such as anyone interested in the benefits of a nature-based preschool, or someone looking deeper into differences in nature-based schools in Europe compared to those available in the United States. Certain parts of this capstone may be beneficial to those interested in adding a nature element to an existing school. Furthermore, the

business plan may be useful to someone who would like to open any type of preschool center in Minnesota, as a large number of the aspects of the business plan are not specific to a nature-based preschool. The business plan could easily lay a good foundation for someone wanting to open a traditional preschool center in Minnesota. The curriculum outline document may be useful to someone interested in any type of preschool in Minnesota, or another state as well as it could be easily adapted to another state's regulations. Further, an in-home childcare looking to create lesson plans in Minnesota or elsewhere may also find this useful.

Chapter Four Summary

In summary, this capstone project focused on the question *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* The project of this capstone looks to answer this question by providing a business plan for such a school and offering an example curriculum guide.

The preceding chapter discusses the literature review and what has been taken away from the review by the author. It also assesses what from the literature review has proven to be the most important to the capstone, and what information was ultimately not used for the project. As with any project, there are possible limitations to the work, and these are discussed here coupled with future implications of the work. A discussion of future projects related to this work is presented as well as a plan for the communication of the project to the appropriate audience. Finally, an assessment of the usefulness of the project to the teaching profession is considered.

Project Conclusion

This capstone has answered the research question through the accompanying business plan and curriculum outline. The first chapter of this paper introduces the research question, *what is the best way to setup and implement a Waldkindergarten-inspired all-day nature based school for ages three to five in the Twin Cities metro area of Minnesota?* It accomplishes this through a rationale of why this question is important to the discipline. The chapter also provides context about the personal events and people who inspired and encouraged my personal interest in this topic.

The second chapter contains the literature review, which aims to honor and present analysis, synthesis and elaboration on the work of other practitioners who have previously researched and published work related to aspects of my research question. It contains four major sections, which analyze the benefits and importance of a nature-based preschool, discuss the availability of nature preschools in the United states, current curriculum models in early childhood education and challenges to opening this type of school in Minnesota.

Chapter Three then describes the project itself. It introduces the textbook that was used to create the business plan as well as texts influencing the curriculum outline. Chapter Three also details why these works and these methods were chosen to answer the research question. It also discusses setting and audience for the project as well as a timeline for project completion.

Finally, the fourth chapter of this paper provides conclusions to the project including a revisitation of the literature review, discussing possible implications and

limitations of the work and providing suggestions for future recommendations of investigations

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